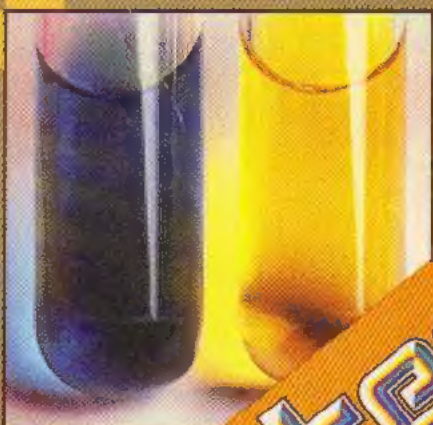
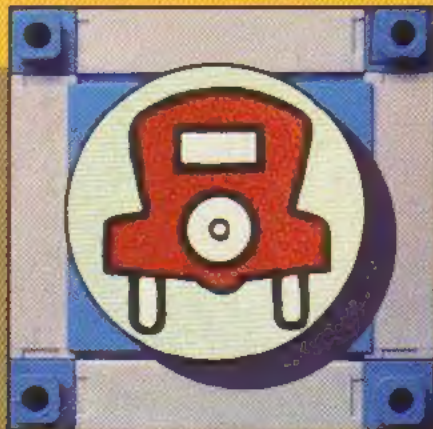


# 321 CONTACT


## Special Toy and Game Issue



Can you identify these 13  
pieces of toys or games?  
(Answer on the Did It! page.)

Including  
**ENTER**  
Computer News • Games  
Software Reviews  
Programming  
And More!





The Ultimate  
Super Robots

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# Coming Attractions

## New Year Greetings

Ring out the old! Ring in the new! It's almost 1986 and everyone everywhere is making new year's resolutions. What's a resolution, you ask? It's when you promise yourself that you'll do something good for yourself in the coming year, and, we hope, good for others, too.

To get into the spirit of things, we asked people from the world of sports, TV, books, and movies to share their resolutions.

We also asked our celebrities what they think will happen in 1986—and what they hope will happen.

Why not send us your new year's resolutions? We'll print some in a future issue. Send your resolutions to:

**1986!**

**3-2-1 Contact Magazine**

**1 Lincoln Plaza**

**New York, NY 10023**

We'd like to wish all of you a happy, healthy and peaceful new year. Happy holidays! See you next year!

**Garfield's predictions:** There's no hope that I'll lose weight.

I think pigs will sprout wings first.

**Jim Davis's resolution:** I resolve to be funnier.

**Jim's predictions:** I hope I won't look any funnier. I think no matter what happens, my mother will still think I'm funny.



**Nan  
Lynn  
Nelson**

Vikki on "The Bloodhound Gang"

**My resolution:** To get into better physical shape and work out more. (After all, it's hard work catching criminals!)

**My predictions:** I hope that I'll write a serious play or novel in 1986. And I hope, too, that I'll become a superstar!



**Dan  
Marino**

Quarterback, Miami Dolphins

**My resolutions:** I hope that I'll continue to improve in all areas of my life, especially in spending more time with my family. I also want to become a better football player.

Wait, I'm not done! I'm the spokesperson for the muscular dystrophy foundation and I also volunteer for the Pittsburgh and Miami food banks. So, I hope to keep on aiding those less fortunate than myself.

There's just one more! I want to bring my golf handicap down to 10!

**My predictions:** Here's what I think will happen. Joe Montana will be buying me a Diet Pepsi.

And I hope the Miami Dolphins will win the Superbowl.



**Anthony  
Michael  
Hall**

Actor

**My resolution:** To really do at least half of the things I'm planning to do—and to do them with a lot of energy, care and hard work.

**My predictions:** In 1986, I think I'll fail half the time. No, I'm just kidding! I want to keep busy working hard, so I can be proud of my work at the year's end.

I hope that I can get as much done in 1986 as I did in 1985.



**Jim  
Davis**

The cartoonist behind GARFIELD

**Garfield's resolution:** I resolve to lose weight.





**Larry Bird**

Boston Celtics player

PHOTO: THE BOSTON CELTICS

**My resolution:** To keep improving myself and my basketball game until I'm the best I can be.

**My predictions:** In 1986, I hope that the Celtics will win the world championship.

Also, I think that the Celtics will win the world championship!



**Dan Rather**

CBS-TV Newscaster

PHOTO: CBS NEWS

**My resolution:** To try to make what I say more helpful to other people.

**My predictions:** I think the big news for 1986 will be Halley's comet. That's what everyone will be talking about.

I hope that more people will wake up and see that there are plenty of others in the world who need their help.



**Julianne McNamara**

Gymnast and Actress

PHOTO: ADVANTAGE INTERNATIONAL

**My resolutions:** I have two of them. The first is to try to achieve excellence by setting goals and reaching them.

The second: To be the best actress that I can be.

**My predictions:** I think that advances in all areas will continue to be made to make the world a better place.

I hope that kids will have many opportunities to do whatever they want to do.



**Stan Lee**

Creator of The Fantastic Four, The Incredible Hulk and Amazing Spiderman

PHOTO: COURTESY OF MARVEL PRODUCTIONS LTD.

**My resolution:** To do all in my power, through my work, to help bring about greater love and understanding among the peoples of the world.

**My prediction:** In 1986, I hope the world will come to its senses, and that people will realize that war and violence never settle anything. The simplest way to achieve peace is to follow the Golden Rule: "Do unto others as you would have them do unto you." If all of us lived that way, planet Earth would finally become the great place it was surely meant to be.



**Malcolm-Jamal Warner**

Theo on "The Bill Cosby Show"

PHOTO: NBC PHOTO BY AL LEVINE

**My resolutions:** I've made up my mind to try to understand people more. I'd also like to look for ways to give to people, rather than just receiving.

**My prediction:** That people will get together and help those less fortunate—especially helping the famine victims in Africa.



**Slipped Disk**

Radio dee-jay and wise guy

ILLUSTRATION BY CAMERON LEAGLE

**My resolution:** To change my socks. I've got a pair I've been saving since last year. It's something I've been meaning to do for a while and there's no better time than January first.

**My predictions:** I hope my boss will give me a raise. I also hope for a private dressing room, a limo, a winning lottery ticket, my own TV show and most important, world peace.



# TRANSFORMERS

## TOY IDEAS FROM THE WORLD OF SCIENCE



It's the GoBots.  
(That's a real human  
in the middle.)

It's the holiday season and toy stores are packed with stuff. What's the story behind some of these toys? Where have designers gotten some of their ideas for the latest toys? From science! From toys that reflect the world of science fiction to toys that reflect the world of high-tech, science and toys seem to be a hot combination.

Today's toys show the interest of both kids and adults in science. Designers are using the latest in technology and ideas from nature to come up with good stuff.

One item where the newest technology and science fiction are brought together is a story-telling Teddy bear that moves. Its name: Teddy Ruxpin.

Teddy Ruxpin blinks its eyes, moves its mouth and nose, tells tales and sings songs about an imaginary world. The bear has been brought to life through the electronic wizardry of a new technology called Animagic.

As soon as you load one of Teddy Ruxpin's special cassette tapes, you travel to the land of Grundo. In this world, you meet up with Grubby, a bumbling eight-legged creature who is Teddy Ruxpin's best buddy, and Fob, an insect-like being.

"Bringing the adventures of Teddy Ruxpin to children has been my dream for 26 years," inventor Ken Forssé told CONTACT. Mr. Forssé helped build the animated Abraham Lincoln



# TO TEDDY BEARS

by James A. Duggert

figure at Disneyland. He has also worked on such cartoon classics as "Sleeping Beauty."

Mr. Forsse explained that Teddy Ruxpin's movements are controlled with computer chips and hidden motors. Hidden in the back of Teddy Ruxpin is a cassette tape player. Special tapes carry stories and digital information to control the motors that move his eyes, nose and mouth.

## Sci-Fi Fantasies

Teddy Ruxpin isn't the only moveable toy on the market today. Some people claim "robot" toys—such as Transformers—are the hottest toy trend ever. Transformers can be changed into

Teddy Ruxpin is a microchip-controlled Teddy Bear.



PHOTO COURTESY OF WOLFE OF WONDER

cars, trucks and airplanes.

When Japan first introduced moveable robots to the U.S., they were simply called "Machine Men." But no one seemed to pay much attention to them.

All that has changed in the last couple of years. "Today's Transformers are based on a toy the Japanese called *diacrones*," Bob Prupis, who works for Hasbro Bradley toy makers, told CONTACT. Americans took the *diacrones* one step farther.

Behind each of the Transformers is a science fiction story. Imaginary planets and characters with unearthly powers battle it out for good and evil. These toys reflect the current interest ➡

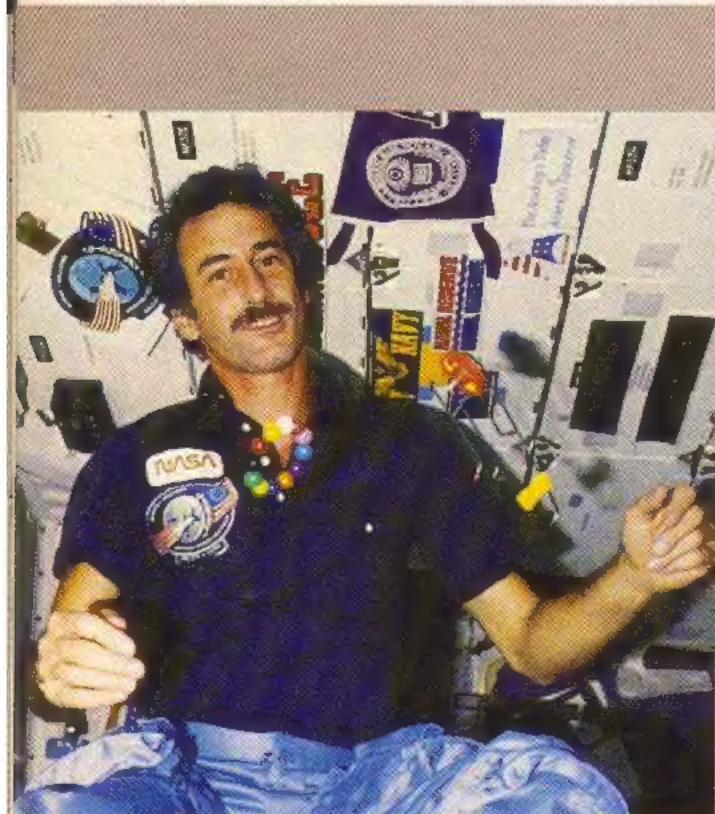


PHOTO COURTESY OF NASA

Opposites attract in magnetic Clickets.



in science fiction.

"Transformers weren't very successful in Japan," Bob Prupis explains. "So we changed the whole story behind them. We made them into heroes that turn into other things. We gave them personalities, and made up science fiction stories to go with them.

"The stories tell how Transformers change into earthly objects such as cars and cassette players. We worked with comic book writers to give the robots a reason to be. Our Transformers are science fiction fantasies with names, jobs, and personalities."

Possibly the most popular robot toy of all is Voltron. Voltron is made up of 15 exploration vehicles that are "specially designed for

pole, just like Earth's. When the opposite poles of Clickets come in contact, zap!, they join together. The north pole of one Clicket attaches itself to the south pole of the other. But reverse them, and watch them battle with each other.

As with all magnets, every north pole reacts as a repellent to the other Clicket's north pole. They resist each other. They just won't come together. The same thing happens when two south poles face each other.

When you toss a few Clickets together, you never know what will happen. Their magnets make for surprises. They join together strongly and dart apart forcefully. Not only can you use Clickets to build structures, you can also discover the secrets of magnetic fields.



This multipede is called  
Lots-a-Lots-a-Leggggggs.

planetary investigation." The vehicles snap together to create one big moveable robot-like toy.

### Space Marbles

Even though many Transformers seem to be out of this world, there is one new toy that actually went out of this world. Space shuttle astronauts took Clickets—colorful magnetic marbles—with them on a space mission. Astronauts wanted to see how magnets worked in space.

Each Clicket has a magnetic north and south

### A leg Up

Not all toys deal with science fiction or space adventure. Nature has given one designer an idea for a new toy. It is called Lots-a-Lots-a-Leggggggs. It was designed by Brooke Keith, who wanted a neat birthday gift for her daughter. Instead of a bunch of birthday candles on her cake, her daughter got a bunch of legs!

The leggy caterpillar is definitely a multipede. It has 10, 20, 40, even 100 legs. Unlike a real caterpillar, these cuddly centipedes come with



Five lion robot sets with moveable heads and tails and snapping jaws make up Voltron.



PHOTO COURTESY OF MARCHBANK TOYS LTD.

socks and sneakers for each foot.

Soon, there will be a new version of Lots-a-Lots-a-Leggggggs that transforms the caterpillar into a butterfly and back again. It's a lesson from nature that can be brought right into your home!

Will designers take another tip from nature to make a hot toy for next year? Will planets from the world of science fiction become homes for a new set of Transformers? Or will kids be playing with magnets and jacks 12 months from now? Tune in next year to find out! 620



This Transformer is Cosmos. It lives in outer space.

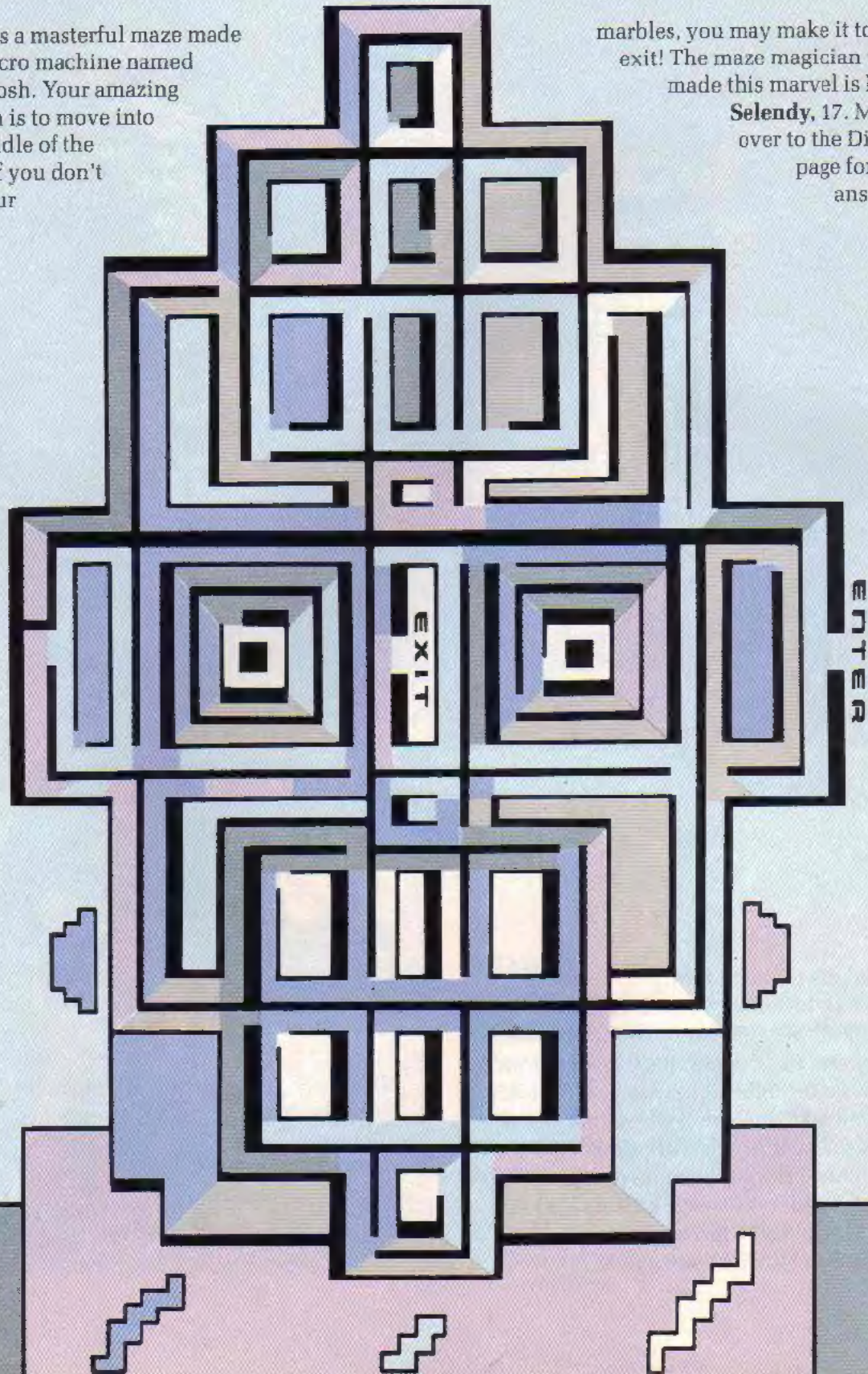
PHOTO COURTESY OF HASBRO INDUSTRIES



# Transformer Maze

Here's a masterful maze made on a micro machine named Macintosh. Your amazing mission is to move into the middle of the maze. If you don't lose your

marbles, you may make it to the exit! The maze magician who made this marvel is **Bela Selendy, 17**. Move over to the Did It! page for the answer.





# CAN WE TALK?



## You Bet We Can!

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Ever ask yourself "If only my computer could talk to me?" Well... thanks to Welwyn/Currah, it can with the new, exciting VOICE MESSENGER™ speech synthesizer and accompanying EASY SPEECH™ text-to-speech system.

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### TALK IS CHEAP! (Inexpensive, anyway)

The VOICE MESSENGER and EASY SPEECH system is available at a suggested combination retail price of under \$70.00, or may be purchased separately.

To find out how you can turn your Commodore 64 or 128 computer into a talking computer, or to locate a store location nearest you, call (313) 547-8300, or write Welwyn/Currah, 104 West Fourth Street, Suite 208-9, Royal Oak, Michigan 48067.

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# IT'S YOUR MOVE!

## KID'S RATE TODAY'S NEWEST GAMES

CONTACT wanted to know what kids look for in a good board game and why some games just don't work. So we asked 90 kids from 9 to 11 what they thought about some of the latest and hottest board games to hit the stores. Their opinions may help you to choose a game. Here's their thumbs up, thumbs down report.

The score for each game is based on interest and difficulty levels, whether the judges would buy the game and if they would play the game again. The highest possible score is 10 stars.



### Know the USA

**Ages 7 to adult; For 2 to 6 players; Pressman.** Players travel across the USA, answering questions from six categories along the way.

The kids' opinions were mixed on the board, but Alexis, 10, thought "the colors were bright and pretty. The pieces were neat—they were purple and white and I've never seen them on a game board." Six out of the seven found the directions confusing, and Laura, 11, found that the "questions were not that interesting."



### Thundercats

**Ages 6 to 12; For 2 to 4 players; Milton Bradley.** A race where players team up with superheroes to help them reach the Onyx Pyramid.

Only two of the eight kids knew the TV series "Thundercats." They thought the game board pieces were neat, and most liked the board, but felt the game wasn't original. It reminded them of Dungeons and Dragons.

Most of the kids had trouble understanding the directions. "After a while, it got boring. I think they should change the age rating to 5 to 9. It's not fun because you do the same things over and over again," said Stuart, 11.





## Trivial Pursuit

Ages 8 to 17; For 2 to 6 players; Selchow & Righter. Players try their hand at this kids' version of the original trivia game.

All the kids knew about Trivial Pursuit, if not the junior version then the adult. It landed on most of the kids' all-time favorite game lists. It scored well here too. Since they were familiar with the game, all nine players had no problem reading and understanding the directions and could start playing immediately. Michael, 10½, said, "The directions were short, simple and accurate."



## Whodunnit

Ages 8 to adult. For 2 to 6 players; Selchow & Righter. Keep track of the clues that lead to who committed the crime.

Six of the eight players were confused by the directions and found it hard to understand.

Donald, 10, thought "it was interesting because it had mystery." Alison, 11, said, "It's exciting when you're so close to winning." Christine, 11, said, "I like Clue a lot better."



## No Respect

Ages 8 to adult; For 2 to 4 players; Milton Bradley. A number stacking game.

Some of the kids recognized this game, but the board wasn't too appealing to the players. Dyan, 10, called it "plastic junk." The directions were difficult for them to read and they needed adult help in understanding what was going on. The kids lost track because some of the rules confused them. Half the group got into the game once they understood the rules. But Beth, 11, said "I wouldn't play the game again because I have no respect for it." ➡





## The Charade Game

**Ages 10 to adult; For 4 or more players; Pressman.**  
Players compete for points by acting out famous sayings and phrases.

The eight kids playing this game had never heard of the party game, "Charades." The players were not familiar with the rules and the game was totally new to them. They thought the board looked solid, but its colors didn't dazzle them. Audra, 11, liked the "game timer and cards." Timothy, 11, called the board "appealing, but the game pieces could use some more pizzazz."

Most of the players thought the game was better for kids over 13. Rita, 10, called the directions "confusing and complicated." But Timothy, 11, said, "The directions were long, but I suppose they have to explain everything. It kept my interest the whole way through." Heather, 11, suggested that "if they made the sayings easier it would have been more fun."



## Advance to Boardwalk

**Ages 8 and up; For 2 to 4 players; Parker Brothers.**  
Players try to end up with millions of dollars as they build hotels along the boardwalk.

The players had trouble starting the game, and didn't understand the object of the game. Half found the directions confusing. Sean, 11, said "The game is interesting but we needed a lot of help." One player added, "Monopoly is better."



## Trivial Pursuit

**Ages 7 to adult; For 2 to 6 players; Pressman.**  
A trivia quiz game for kids.

Almost all the players were familiar with this game. They were eager to play and get right into it. They liked the board. Players found the directions easy to read and accurate.

Jon, 11, thought the game was interesting, but wasn't totally original because "it's just another trivia game." Mike, 11, said, "The game kept me interested because the questions weren't boring."





## Duran Duran Game

**Ages 7 and up; For 2 to 4 players; Milton Bradley.** Players move around the outer circle to collect Duran Duran's records and videos.

The cover of the box excited the kids and they were eager to play. Some thought the board looked complicated, but almost all thought the colors were neat. Seven of the eight found the directions very confusing. They had a lot of trouble setting up the board. "It's not for children under 10 years old," said Mike, 11.

"It confused all of us into trying to give up," added Sean, 11.

Brian, 11, said, "All they did was take a rock group and make a game out of it."



## The All-Stars

## The Best Board Games

**Monopoly**

**Trivial Pursuit**

**Clue**

**Scrabble**

**Life**

**Sorry**

**Chess**

**Checkers**

**Payday**

**Bargain Hunter**

**Risk**

**Battleship**


**Go to the Head of the Class**

## What Makes a Good Board Game?

**Simple directions** Game-makers should use language that's easy for kids to understand. Directions should be right up front and should state the object of the game and how to win. One large card made of something that won't fall apart—and that kids could pass around—would be best.

**Exciting looking game pieces and board** The key here is the more colorful, the better. The board should have few words and lots of pictures. Just by looking at the board, players should get an idea of how to play the game.

**Action and strategy** A game based on skill with a lot of action and strategy makes for a thoughtful—and fun—time.

**Colorful packaging** It would be nice if the game's package had a neat and exciting cover, but all agree: It's the game—not the cover—that counts! 



# Any Questions?

by Rebecca Herman

**Are snakes slimy?** Indiana Jones wouldn't get near that question! He's well-known for his fear of slimy snakes. If you're afraid of slimy snakes, too, you really have nothing to worry about. Why? Snakes are not slimy!

A snake's skin is very dry. Snakes are covered from head to tail with dry scales. A snake's scaly skin has two layers. An inner layer of skin is always growing. The new skin pushes the old, dead skin to the top. A snake sheds its old skin a few times a year. Sometimes the animal's skin looks shiny, which some people may mistake for sliminess.

Many people think that snakes look "creepy." Actually, only 25 out of 270 kinds of snakes are poisonous. Some people even keep snakes as pets. But Indiana Jones sure doesn't!

Question sent in by Tammy Milnar, Chicago, IL



## How do archaeologists know how old something is?

People who study how people lived in the past are called archaeologists. Archaeologists study objects that ancient people used. By looking at tools, experts can tell if ancient people were hunters or farmers.

Archaeologists use two methods to figure out how old something is. The first is called *relative dating*. Using this method, the archaeologist can figure out if something is older or newer than another object. For example, if one object is buried deeper than a second, it is older than the second object.

The other method is called *absolute dating*. Archaeologists know that all living things contain carbon. They also know how long it takes for carbon to change. So, by measuring the amount of remaining carbon in an object, they can figure out how old it is.

Question sent in by Steven Roberts, Boston, MA





Do you have a question that no one seems able to answer? Why not ask us? Send your question, along with your name, address, and age, to:

Any Questions?  
3-2-1 CONTACT  
P.O. Box 599  
Ridgefield, NJ 07657

## How does an elevator work?

The first elevator was invented in Greece more than 2,000 years ago. It was a machine that used ropes and pulleys. But elevators did not become popular until the 1880s.

Today, most elevators still use a system of ropes and pulleys to give people a lift. Thick ropes, or cables made of steel, and a pulley with grooves do the work. When you push the elevator button, electric signals cause the pulley to turn. Then the cables either lift or lower the elevator. A brake holds the elevator when it stops.

All elevators have built-in safety systems. If an elevator goes too fast, a clamp slows the car down. The elevator won't fall even if the cables break. The safety devices make sure everything is on the up and up.

Question sent in by Paul Conrad, Miami, FL



## How does a helicopter work?

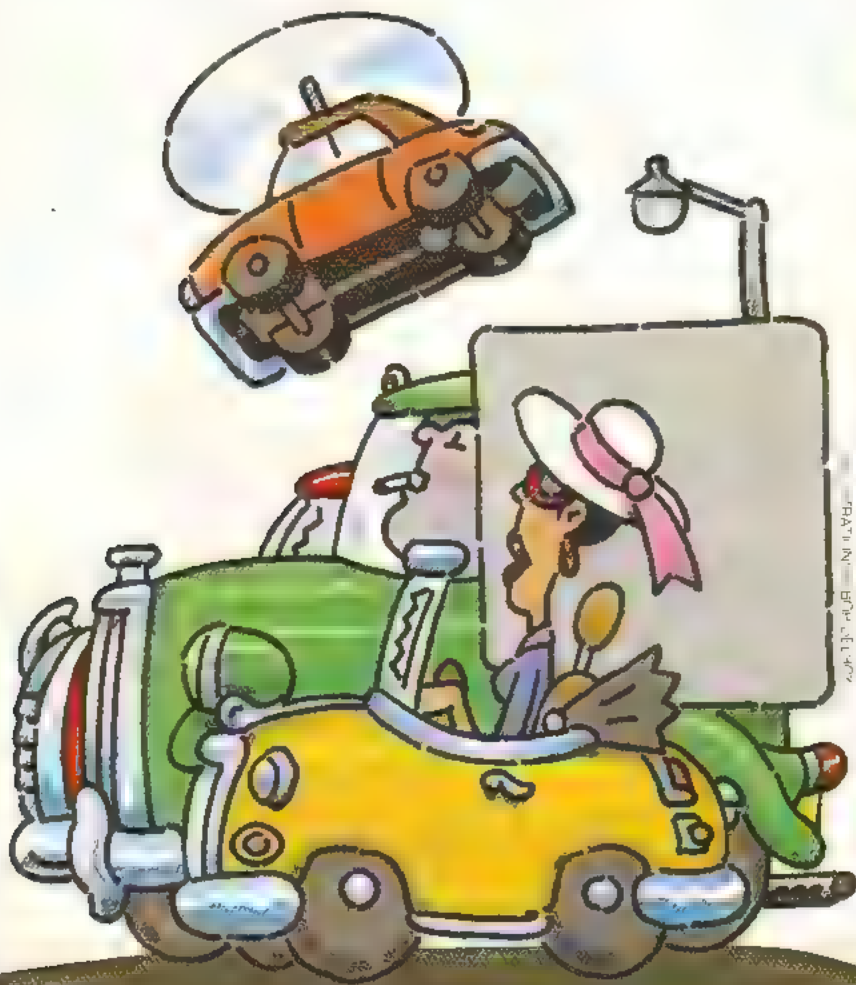
A helicopter seems to fly even better than a bird. A copter can go straight up, straight down, sideways and backwards. It can even hover in the air, floating in one spot.

A force called *lift* gives a helicopter its forward push. The helicopter's special wing works with air to create lift.

The spinning wing—or rotor—is curved on top and flat on the bottom. When the pilot turns on the engine, the rotor begins to spin. The air flows faster over the curved top of the rotor than under its flat bottom. So there is less air pressure on the top. With less pressure on top, the air pushes harder at the bottom of the wing. This creates lift and causes the helicopter to rise.

Now if only someone would invent a car copter to rescue you from traffic jams.

Question sent in by Melissa Ortiz, San Antonio, TX





# THE BLOODHOUND GANG

## The Case of the Mystery Disk



It all began early one Saturday morning. Vikki was in the kitchen eating pancakes when she looked out and saw Ricardo and Skip hurrying down the street. The two of them were almost running.

"Hey!" Vikki yelled out the window. "What's the rush?"

"Hi, Vikki," Ricardo said, as he came through the door. "Better finish your breakfast, quick. We've just found out they're having a big one-day sale on video games at Schultz's Compute-O-Mart. We want to be first on line."

"Don't I have time to finish breakfast?" asked Vikki.

"I'll help you," said Skip, helping himself to some pancakes. Then the three of them set off.

"The sale is a secret," said Ricardo, as they hurried down the street. "I bet no one else knows about it."

"Oh yeah?" laughed Skip, "take a look."

There were almost 50 people lined up outside the Compute-O-Mart. Soon Mr. Schultz opened the doors and the crowd rushed in. But once they were inside, the sale was a big disappointment. The gang already had all the games that were on sale.

"Let's go," said Ricardo.

"Wait a minute," said Skip. "Here's one I've never seen before. It's called *Walk the Dog*."

"Hey, that sounds about as exciting as taking

out the garbage," said Vikki.

"Maybe," replied Skip, "but it's cheap—only two dollars."

Skip bought the game and the gang went back to Vikki's house. Skip wanted to try his new game right away.

The gang went down to the basement, inserted the disk into Vikki's computer and turned it on. Suddenly the screen filled with blazing white lights. The air was filled with whizzing, popping sounds and Star Wars-like music.

"What's this?" said Ricardo, "I thought we were playing *Walk the Dog*."

"I don't know," said Skip, "the instructions on the box say you have to walk a dog around the block without bumping into a cat or fire hydrant."

A message flashed on the screen: "Hit by asteroid. Left engine on fire."

"Hey, this is great!" Ricardo shouted.

Suddenly, an orange light filled the screen. An explosion sounded and then the screen went black. A message appeared: "ESCAPE FROM PLANET X. THE END."

"What was that?" Vikki asked.

"I don't care," Ricardo said as he rushed out to go back to the Compute-O-Mart. "I'm going to buy one for myself!"



## A Mystery Disk

Thirty minutes later, Ricardo was back in Vikki's basement. "You'll never believe it," he said. "Mr. Schultz never heard of *Escape from Planet X*. So, I bought another copy of *Walk the Dog*. Maybe *Planet X* is inside."

They put the disk in Vikki's computer. After some clicks a fuzzy-looking picture of a boy walking a dog appeared on the screen.

"Oh no," said Ricardo, "it's *Walk the Dog*! Two dollars wasted!"

"You know, I wonder where *Escape from Planet X* came from?" said Vikki.

"The name on the box says Stingray," observed Skip.

"Well, why don't you call them?" Vikki suggested. "Maybe they can help you."

Ricardo looked up the Stingray Company in the phone book and dialed their number. After a few minutes he hung up.

"What happened?" asked Vikki.

"I talked to four different people and they all said the same thing—Stingray doesn't make a game called *Escape from Planet X*."

The gang spent the rest of the morning playing *Escape from Planet X*. They were just quitting when the doorbell rang. When Vikki answered it, she found herself staring up at a thin man.

"Where's the game?" he demanded.

"What game?" Vikki answered. Before she knew it, he had barged past her and into the living room.

"Hey!" she shouted. "You can't do that!"

Skip and Ricardo came running.

"Who are you?" demanded Vikki.

"My name is August Debs. I'm the head of security for Stingray Computer Games. We do make a game called *Escape from Planet X*, but no one is supposed to have a copy of it yet."

"You think we stole it?" Skip asked.

"No," he went on, "but someone did. And from your story, I think I know how."

"The only way to get a game out of our plant is to send it to a store in a box for another game," explained Debs. "And that's what the thief must have done, put a *Walk the Dog* label on an *Escape from Planet X* disk. I think the thief was waiting for it to arrive at the store."

"Only I bought it first," Skip said.

"Right," said Debs. "And now there's someone who's looking for this game."

## A Software Pirate

Mr. Debs left, taking *Escape from Planet X* with him.

"I think I know of a way to trap the crook," said Vikki. "It's time for us to pay another visit to Schultz's Compute-O-Mart."

When they got to the store, Vikki asked Mr. Schultz if they could talk to his staff.

"Sure," he answered, "go ahead."

The first clerk they ran into was Sue Crandle.

"Excuse me," Ricardo asked, "But do you have a game called *Escape from Planet X*?"

"I never heard of it," she said. "Who makes it?"

"Stingray," Ricardo said.

She didn't bother to look in the Stingray catalog before answering. "No," she repeated, "I never heard of it."

"Well," Vikki said, "we're having a great time playing it on the computer in my basement."

They drifted over to Jerry Warren, who had been with Mr. Schultz for years. Skip asked if the store had another copy of *Escape from Planet X*.

"I never heard of it," he said. "You bought it here?"

"Oh sure," Skip said.

Jerry Warren picked up a Stingray catalog and started to look through it. "It's not here," he said. "I can't understand how you could have bought it."

"I can't either," Vikki said. "But it sure is fun to play on the computer in my basement."

Next the gang passed the stockroom, ➡







where Toby Anson worked.

"Hey, Toby," called Ricardo, "do you have a game called *Escape from Planet X*?"

"What are you talking about?" he said. "I never heard of that."

"We've been playing it over at Vikki's house," Ricardo said. "It's a great game."

"Well, I've never seen a game by that name," Toby said. The gang moved to the front door.

"I guess that covers everyone," said Ricardo. "Let's go."

"Okay," Vikki said. "But first I have a couple of purchases to make. I'll meet you outside."

When Vikki joined Ricardo and Skip she was carrying a brown paper bag. "Okay," said Vikki, "let's go back to my house."

When they got there, Vikki called Mr. Debs. When she hung up, she turned to Ricardo and Skip. "Now," she said, "let's go out and play 'To Catch a Thief'."

They didn't have to wait long. Soon Vikki motioned the gang over to a basement window. In the dim light, they could see someone hunched over Vikki's computer.

"Ricardo," she whispered, "go to the corner and tell Mr. Debs to come over here. It's time to arrest our software crook—Jerry Warren."

## A Dog of a Program

Ricardo returned with Mr. Debs, his assistant and two police officers. While one of the police watched the front door, everyone else walked down the steps to the basement. Sure enough, there was Jerry Warren with 15 video game boxes—all labeled *Walk the Dog*.

"Where is it?" he demanded. "What have you done with *Escape from Planet X*?"

"You should have thought about escaping from this basement," said Mr. Debs. "Officer, arrest this man for software piracy."

As the police led Warren away, Skip went to the computer.

"I don't get it," he said. "Where did all these copies of *Walk the Dog* come from?"

"They're not *Walk the Dog*. Before we left the store, I asked Mr. Schultz to loan me some empty *Walk the Dog* boxes. Then I filled them with my old software."

"Pretty smart," said Ricardo. "That way, the thief would have to go through 15 boxes looking for *Escape from Planet X*."

"Just one more thing," said Mr. Debs. "How did you know it was Jerry Warren who stole the video game?"

"When I spoke to Jerry in the store," Vikki explained, "he didn't even bother to ask me which company made *Escape from Planet X*. He went straight to the Stingray catalog. There was no way he could have known it was a Stingray game, unless he was one of the thieves."

And that was the end of the case of the mystery disk—almost. A few days later, a parcel from Stingray Software was delivered to the Bloodhound Gang's office. Ricardo opened it.

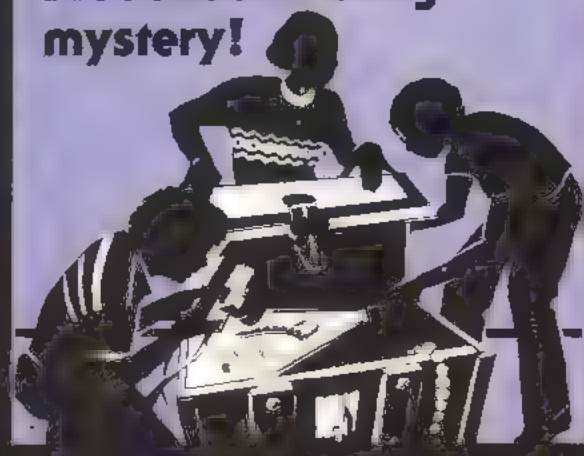
"I bet it's some great new game," he said. "Maybe it's *Escape from Planet X*."

"Oh no!" he moaned.

"What is it?" asked Skip.

"Take a look," said Vikki. "It's a note of thanks from Mr. Debs and three copies of our favorite video game—*Walk the Dog*."

**Watch for next month's  
Bloodhound Gang  
mystery!**





# ENTER

THE  
HIGH-TECH  
WORLD OF  
COMPUTERS

## Odd One Out

by Patricia Berry

In each of these groups, there are three items that have something in common. But one item in each group doesn't belong. First, find the out-of-place item in each group. When you've found all four, can you tell how they are alike? If you can, you've solved the puzzle!



Answer  
on the  
Did It! page.



# computer buying guide

by Amy Roberts

Computers used to cost thousands of dollars. But today, you can buy a home computer for as little as one hundred dollars! As the machines drop in price, more and more people are buying them. Still, buying a home computer can be very confusing. There are so many different brands, and they all do different things.

Should you buy a home computer? Which kind should you buy? We can't answer those questions for you. But here are some pointers on how to answer them for yourself.

## Do You Really Need A Computer?

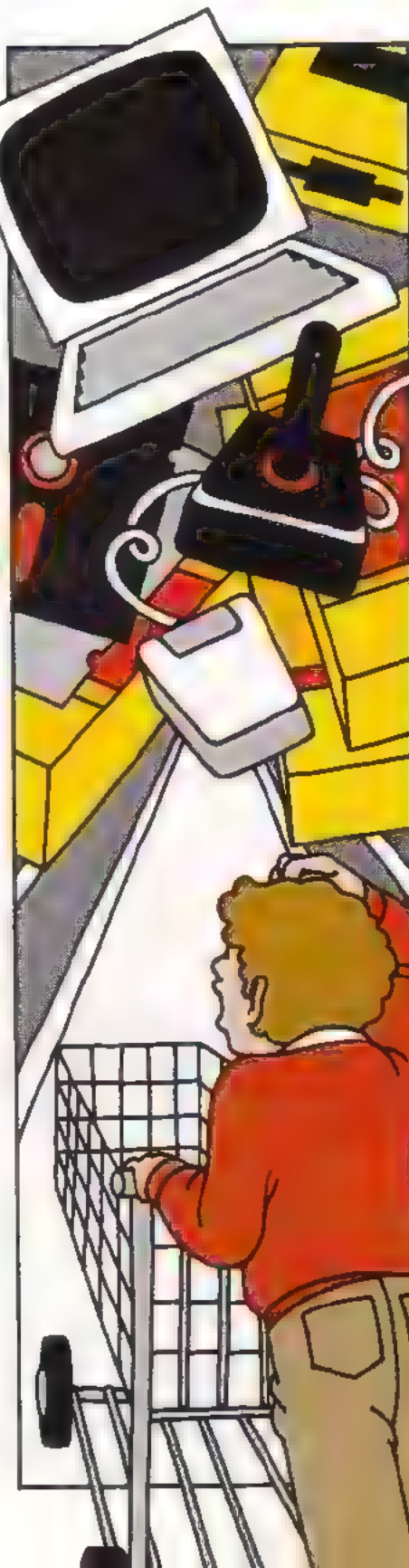
Lots of computers end up gathering dust in a closet after a few weeks of use. To decide if you need one, first think of what you will use it for. The following list may give you some ideas:

● **Games**—Many video arcade games can also be played on a home computer. And there are lots of computer games that are not available in the arcades. There are strategy and mystery games that take hours to solve. There are role playing games that let you become James Bond. And there are word games and more.

Of course, if all you're going to do is play games, it might be cheaper to stick with the arcade. Remember, computer games can cost 30, 40, or 50 dollars each!

● **Word Processing**—Computers can be used as electronic typewriters. This is called word processing. With a computer, a printer and a word processing program, writing becomes much easier.

When your teacher assigns a book



report, you can type it on your computer, make changes and corrections, and then the computer will type it out for you. You'll never get ink stains on your hands again—and no erasers or crossouts! Besides that, everybody will be able to read your handwriting!

If you can't type, there are many programs that can teach you. If you are interested in word processing, you'll need a printer and probably a disk drive

● **Graphics**—Even people who can't draw a straight line can "draw" with the right computer software. (Software is a computer program, often on a disk.) You may not be able to make a 3-dimensional picture yourself, but you can with the computer's help!

For graphics, you'll need a color monitor and a printer.

● **Music**—A computer that sounds like a piano, trumpet or a piccolo? Okay, not exactly a trumpet, but you can make music with computers.

● **Programming**—If you're thinking of a future in computers or science, or you're just interested in how computers work, then you'll be interested in programming. Most computers come with BASIC, a simple programming language. But you may want more advanced languages like Pascal or Fortran

## The Right Computer For You

If you decide that you do want a computer, then it's time to do some homework. Don't worry, this kind of homework can be fun. Your assignment is to find the right computer for you. The right computer is one



# A Quick Guide to Home Computers

Computer	List Price*	Hardware Included	Software Included	Min/Max Ram	Comments
Atari 800XL	\$95	Keyboard/CPU	BASIC	64K/192K	No longer made. New version is planned.
Commodore 64	\$149	Keyboard/CPU	BASIC	64K/64K	Also a 128K version
TRS-80 Color Computer 2	\$120	Keyboard/CPU	BASIC	16K/64K	Sold at Radio Shack
Apple IIe	\$895	Keyboard/CPU	BASIC	64K/128K	Lots of software
Apple IIc	\$1195	Keyboard CPU disk drive/mouse	BASIC	128K/128K	A portable IIE
IBM PC	\$1390	Keyboard/CPU	BASIC	64K/640K	Most popular business computer
IBM PCjr	\$725	Keyboard/CPU	BASIC	64K/512K	No longer made. Runs IBM PC software
Atari 520ST	\$799	Keyboard/CPU disk drive/mouse	LOGO/ Operating system	512K	Just released
Commodore Amiga	\$1295	Keyboard CPU disk drive mouse	BASIC operating system graphics program	256K/512K	Just released
Apple Macintosh	\$2195	Keyboard/CPU/ monitor/mouse	MacWrite, Mac Paint, system disk	128K/512K	Only black and white display

\* For most basic model as of August 1985.

that can do the things you want, and one that is in your budget.

When choosing a brand, it's a good idea to start with software. What programs do you want to be able to use? Is there a special graphics program that you really like? Then you'd better pick a computer that will run that program. Some programs will run on more than one computer. Some will only work on one model. You have to find out before you buy!

It's also very important to decide from the start how much money you can spend. A computer that

goes for \$200 may be \$800 after you add on everything that you need. That includes things like printers, disk drives and software.

## On To The Stores

Going shopping can be confusing. So before you start out, plan your trip.

Before you go, sit down with your parents and make a list of questions. You may want to know what kind of music software runs on each computer. Or you may want to know what kinds of printers work with it. You'll want to know how much

memory (RAM) the computer has and if the memory can be increased.

Once you're in the store, you should also try out the computer with the software that you want to use. Always remember the reasons you wanted a computer in the first place. Colorful games won't help if you really wanted word processing.

And remember — shop around. Prices may vary and the more you talk to people the more you will learn. The most important advice: Remember your needs, forget about the commercials, and buy the computer that is right for you!



# REVIEWS

by Phil Wiswell and Bill Gillette



## Sliding Block

Learning Technologies, Inc.,  
Commodore 64, \$25

We've all seen those plastic puzzles with the numbered sliding pieces that you have to arrange in numerical order. Well, this is a computerized version in which each piece is part of a colorful picture. The computer scrambles the picture into squares, leaving one square blank. You must move the pieces to change the picture.

You can work with four different graphics—a landscape, a boat, a train and an outer space scene—at five different skill levels. The levels range from a 2 by 3 grid all the way up to a 5 by 5 grid of 24 pieces. There is no time limit or any score in *Sliding Block*, so the only pressure comes from yourself.

### Wrap-Up

**Phil:** This game of "mental gymnastics" helps to develop many ways to solve problems involving looking at the whole picture or problem, planning and experimenting.

**Bill:** I enjoyed it. You have to use your brain, yet it's easy to get into.

## Hacker

Activision, Commodore 64, \$35

What would you do if you were "hacking" around on your computer and accidentally broke into the computer system of a big company? And what if you found out that the company was involved in evil doings? Would you stay online and try to let officials in on the plot, or would you hang up the phone and forget it?

That's the plot of Activision's new game, *Hacker*. You don't have to worry about breaking the law by snooping around someone else's computer system. That's the whole point of the game.

No instructions come with the game and we're not giving away anything except that it plays like an adventure game. You'll have to think hard before you act. And you've got to figure out the rules by paying attention to the messages on the screen.

### Wrap-Up

**Bill:** I like this game because it lets you do things you shouldn't be doing—and it's all in fun. And that's the best part of all!

**Phil:** I love it! If you enjoyed the movie, "Wargames," you're going to love *Hacker*, too.



## The Railroad Works

CBS Software IBM PC/PCjr, \$35; also  
for Apple II and Commodore 64

This is a model railroad construction set. It lets you create your own track layouts across 12 screens arranged in a 3 by 4 rectangle. The object is simply to be creative and to have fun.

First, you build a layout that can include different kinds of tracks, overpasses and switches. Along the way, you build towns, cities and stations.

With layout complete, you can put together a train using steam-driven locomotives or modern



diesel engines, along with boxcars, cattle cars, tank cars, passenger cars and cabooses. Your railroad empire can have more than one train and everything can be saved for later play. Nine layouts come preset on the disk.

### Wrap-Up

**Phil:** There is no point or use for this program—yet *The Railroad Works* is fun and stimulating.

**Bill:** I don't like it. It's supposed to be like having an electric train set on your computer but it doesn't seem to be real or fun.





## Alice In Wonderland

Windham Classics. Commodore 64, \$27; also for Apple II

In this text and graphics adventure game, you play the part of Alice. You must journey through 100 colorfully animated scenes, searching for clues to escape Wonderland before time runs out.

You move Alice around the high-resolution scenes with the joystick. You also use the joystick to select from a menu of possible actions such as EXAMINE, SING, OFFER and COAX. You never need to use the keyboard, which makes playing easy.

There are more than 60 different characters to meet, including the Mad Hatter, the Cheshire Cat and the Queen of Hearts. Using your menu of actions, you can speak with them, ask questions, scold them. If you figure out how to "talk" with a character, he or she will often give you information you need to solve the game.

### Wrap-Up

**Phil:** Alice in Wonderland may be a children's story, but the game isn't child's play—it's a pretty tough adventure.

**Bill:** I agree, but the game itself doesn't have much to do with Lewis Carroll's Alice in Wonderland. The characters don't really add to the adventure as much as they should.

## Wilderness

Electronic Arts, Apple II, \$50

As the only survivor of an airplane crash in the Sierra Nevada mountains, your object is to stay alive long enough to find the ranger station and be rescued. That's the plot of Wilderness.

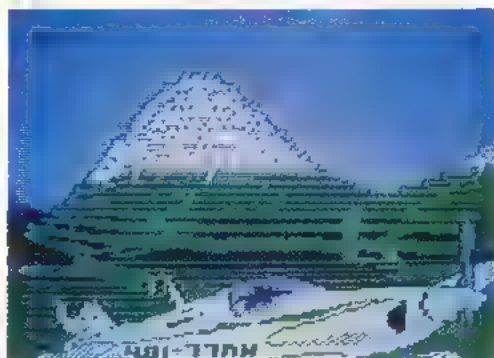
There are six different screens you can view. The main one is a picture of the surrounding area. Other screens let you check your health, what you're carrying and a map to help you figure out where you are. Then you must plan a route to the ranger station and start hiking.

A typical day in the wilderness includes walking, resting, climbing, sleeping, eating and drinking. You also have to deal with weather conditions and other surprises. You can search for plants, hunt game, fish and do many other outdoor activities. The manual is full of information on how to survive.

### Wrap-Up

**Bill:** People into camping and dealing with nature will probably love Wilderness because it's more simulation than adventure. You have to take it very seriously or you won't last half an hour.

**Phil:** Yes—it's a serious program for learning, though you can have quite a bit of fun. My only complaint is the slow disk access speed. You can die of boredom before anything else!



## Ten Best Discs Of 1985

It's that time of year again, so here they are, just in time for your holiday wish lists—the 10 best programs of 1985!

**The Newsroom** (Springboard; Apple II, IBM): You can print your own newspaper at home with this easy to use program.

**The Music Shop** (Broderbund; IBM, C64): The best sounding, simplest-to-use program for creating and learning about music.

**Where in the World is Carmen San Diego?** (Broderbund; Apple II): A great way to learn geography and world facts while having fun in an adventure game.

**The Body Transparent** (Designware; Apple II, C64): This program teaches you about human anatomy without the blood or formaldehyde.

**Wishbringer** (Infocom; most home computers): Best introductory adventure game with straightforward, logical puzzles.

**King's Quest II** (Sierra; Apple II, IBM): A great animated adventure game, featuring beautiful graphics and a charming story.

**Dave Winfield's Batter Up!** (Avant-Garde; Apple II, IBM, C64) Batting practice on your computer—a terrific sports game.

**Adventure Construction Set** (Electronic Arts; Apple II, C64): An excellent program for creating your own adventure games.

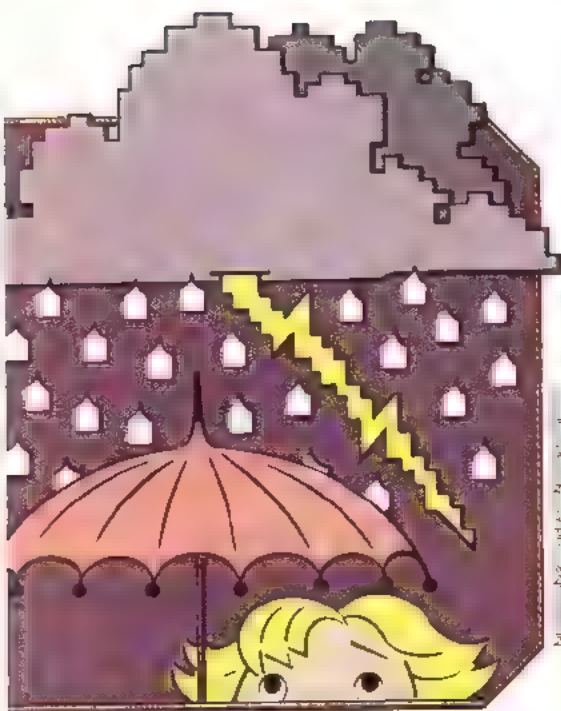
**The Complete Computer Fireworks Celebration Kit** (Activision; C64) Best way to kill time on a computer. It has no real use, but it's lots of fun, and is one-of-a-kind.

**The Bank Street Filer** (Broderbund; IBM): The best program for beginners to learn about database file management.



# BASIC TRAINING

PROGRAMS FOR YOUR COMPUTER



## Night Storm

Atari

This program is perfect for telling ghost stories or any time you need a dark and stormy night—even if it's a bright and sunny day. Believe it or not, it recreates a tremendous storm complete with rain, thunder and lightning. And the best part is you can't get wet!

"Night Storm" was written in a flash by **David Jarzembksi** of Chicago, Illinois.

```

10 GRAPHICS 7 + 16
20 SETCOLOR 2,0,0
30 SOUND 2,0,0.2
40 COLOR 3:FOR T=1 TO 30
50 X=RND(0)*140:Y=RND(0)*80
60 PLOT X,Y:DRAWTO X+5,Y+5
70 NEXT T
80 FOR T=1 TO
  INT(RND(0)*500+100)
90 NEXT T
100 GOSUB 150
110 FOR T=1 TO INT(RND
  (0)*200+50)

```

```

120 NEXT T
130 GOSUB 290
140 GOTO 40
150 X=INT(RND(0)*140)
160 Y=INT(RND(0)*26)+4
170 COLOR 1
180 PLOT X,0:DRAWTO
  X+3,Y
190 DRAWTO X+5,Y-3:
  DRAWTO X+8,Y*Z
200 DRAWTO X+10,Y*Z-Z:
  DRAWTO X+13,Y*3
210 FOR W=0 TO 16
220 SETCOLOR 4,0,W
230 NEXT W
240 FOR W=15 TO 0 STEP 1
250 SETCOLOR 4,0,W
260 NEXT W
270 GRAPHICS 7+16
280 SETCOLOR 2,0,0 RETURN
290 FOR V=0 TO 14 STEP +3
300 SOUND 0,RND(0)*255,4,V
310 SOUND 1,RND(0)*255,0,V
320 NEXT V
330 FOR V=14 TO 0 STEP -0.2
340 SOUND 0,RND(0)*255,4,V
350 SOUND 1,RND(0)*255,0,V
360 NEXT V
370 RETURN

```

```

10 POKE 53280,0:POKE 53281,0
20 PRINT CHR$(147)
30 PO=1524
40 GET RES$
50 IF RES$="5" THEN GOSUB 500
60 MO=INT((RND(1)*4)+1)
70 ON MO GOSUB 300,350,400,450
80 N=INT(RND(1)*15)
90 X=INT(RND(1)*26)
100 POKE PO,X:POKE 54272+PO,N
110 GOTO 40
300 IF PO-40<1024 THEN 20
310 PO=PO-40:RETURN
350 IF PO+40>2023 THEN 20
360 PO=PO+40:RETURN
400 IF PO-1<1024 THEN 20
410 PO=PO-1:RETURN
450 IF PO+1>2023 THEN 20
460 PO=PO+1:RETURN
500 GET RES$:IF RES$="5" THEN 500
510 RETURN

```

## Graphics Show

IBM PCjr and PC with color graphics card

This program is only 17 lines long, but it does exactly what it says—it puts on a graphics show with your IBM. It was drawn up by **Tom Irons**, of Greenville, North Carolina.

## Alphabet Soup

Commodore 64

Here's a really um—souper—program that uses the alphabet to draw designs on your screen. Just run it and a multi-colored pattern will begin to appear. Press the S key and the pattern will freeze.

"Alphabet Soup" was cooked up by **Chris Akers**, 14, of Roanoke, Virginia. He says that you can often find words hidden in the jumbled letters.

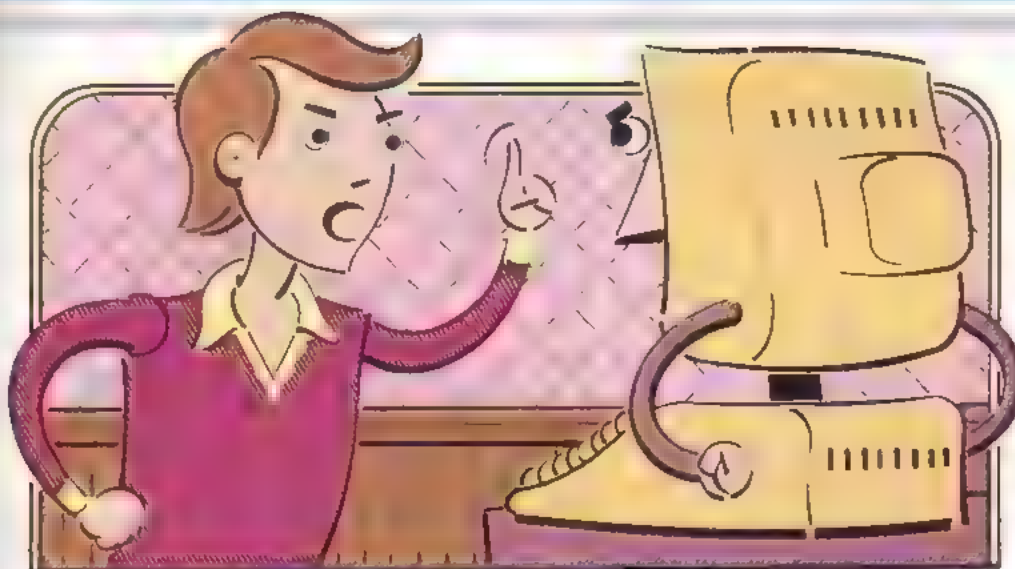
NOTE: While playing with "Alphabet Soup," do not put saltines in your disk drive.

```

10 RANDOMIZE TIMER
20 FOR ZZ=1 TO 10
30 CLS
40 SCREEN 1,0
50 A=INT(RND(1)*15)+1
60 B=INT(RND(1)*2)
70 COLOR A,B
80 A=INT(RND(1)*50)+50
90 E=INT(RND(1)*320)+1
100 F=INT(RND(1)*200)+1
110 FOR B=1 TO A
120 C=INT(RND(1)*320)+1
130 D=INT(RND(1)*200)+1
140 LINE (E,F)-(C,D),INT(RND
  (1)*3)+1
150 E=C:F=D
160 NEXT B
170 NEXT ZZ

```





## Your Disk Drive Wears Combat Boots!

Apple, Commodore 64, IBM, TI 99/4A, VIC 20

This program is definitely not user-friendly. It's for all the times you get fed up with your computer. Now, instead of blaming yourself for typing mistakes, you can give your silicon servant a chewing out.

There's one nice thing about insulting a computer—you can program what it says back to you. "Your Disk Drive Wears Combat Boots" has four different response modes, from Ignore to Apologize. It's easy to add new responses.

This program was written by Blossom Appel, 15, of Highland Park, Illinois. (No, she doesn't own an Apple computer.) However, the version below is written for Apple II machines. To adapt it to other computers, just follow these directions:

### Commodore 64 and VIC 20.

Change all HOME statements to PRINT CHR\$(147).

**IBM** Change all HOME statements to CLS

**TI 99/4A** Change all HOME statements to CALL CLEAR

Change line 210 to:  
210 R = INT (RND\*4) + 1

Break line 130 into two separate lines.

```

10 HOME
20 PRINT "WELCOME TO"
30 PRINT "INSULT YOUR
  COMPUTER!!!"
40 PRINT "CHOOSE THE
  RESPONSE MODE"
50 PRINT "1. IGNORE"
60 PRINT "2. BACKTALK"
70 PRINT "3. SECURITY"
80 PRINT "4. APOLOGY"
90 INPUT M
100 HOME
110 ON M GOTO 190, 210, 310, 330
120 GOTO 10
130 FOR DE = 1 TO 2300 NEXT DE
140 HOME
150 PRINT "STILL ANGRY? Y/N"
160 INPUT A$
170 IF A$ = "Y" THEN 10
180 END
190 PRINT "YAWN!"
200 GOTO 130
210 R = INT (RND (1) * 4) + 1
220 ON R GOTO 230, 250, 270, 290
230 PRINT "OH YEAH? SAME TO
  YOU!"
240 GOTO 300
250 PRINT "WHY DON'T YOU
  LEARN HOW TO TYPE,
  SMARTY!"
260 GOTO 300
270 PRINT "GET LOST HUMAN"
280 GOTO 300
290 PRINT "YOU LOOK OBSOLETE
  TO ME"
300 GOTO 130
310 PRINT "COMPUTER RESPONSE
  DELETED"
320 GOTO 130
330 PRINT "I AM SO VERY VERY
  SORRY OH WISE AND MOST
  ALL-KNOWING MASTER.
  PLEASE DON'T TRADE ME IN
  FOR A SKATEBOARD."
340 GOTO 130
  
```

## Starburst

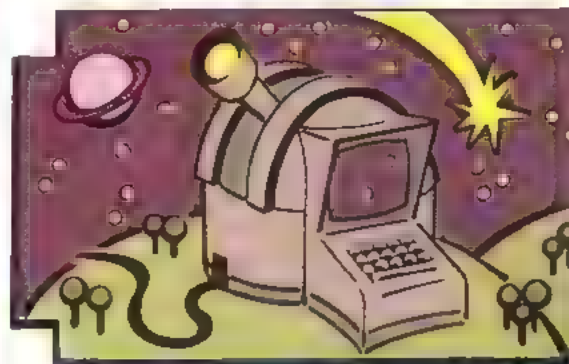
Apple

Star light, star bright, this program is outasight. Just type it into your Apple and you can do some hi-tech stargazing, too.

"Starburst" was rocketed to us by Jeff Lannigan, 12, of Spokane, Washington.

```

10 Y=30
20 IF Y = 0 THEN 10
30 HGR2
40 FOR T = 1 TO Y
50 C = INT(RND(1)*7)
60 HCOLOR = C
70 U = INT(RND(1)*279)
80 W = INT(RND(1)*191)
90 HPLOT 139,95 TO U,W
100 R = PEEK (-16326)
110 NEXT T
120 Y = Y-1
130 GOTO 20
140 END
  
```



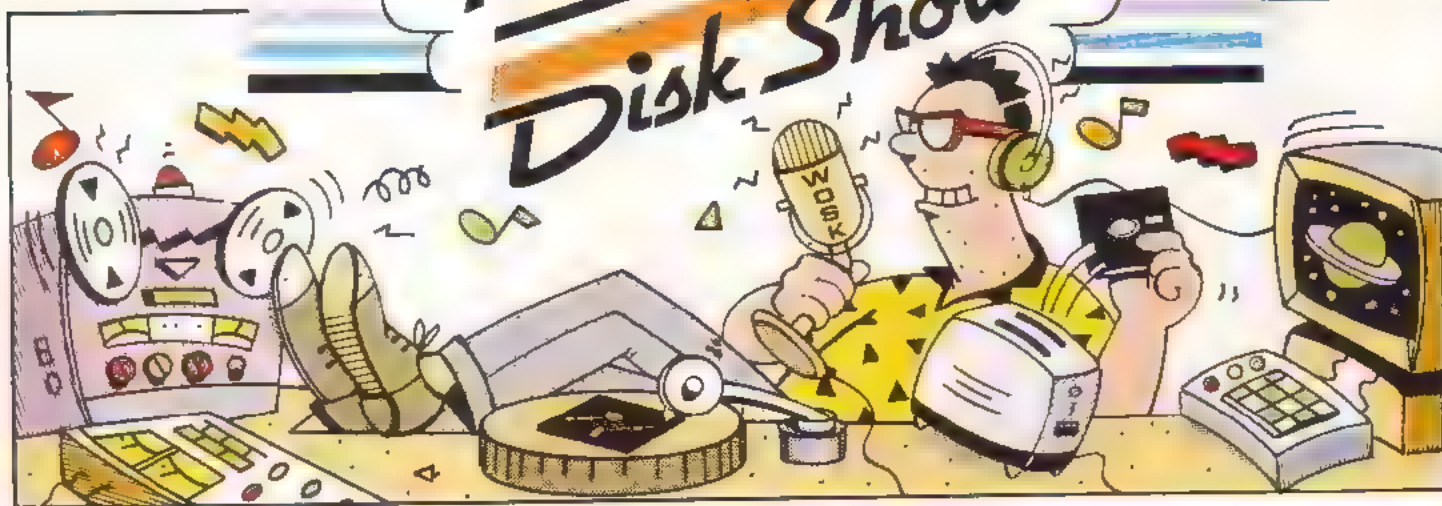
## Send Us Your Programs

If you've written a program you think we'd like to print, then send it in. If we use it, we'll send you \$25. Remember to include a note with your name, address, age and the computer you use. All programs must be your own work. Send them to:

**Basic Training**  
**3-2-1 CONTACT Magazine**  
**1 Lincoln Plaza**  
**New York, N.Y. 10023**



# The Slipped Disk Show



You better watch out, you better not cry, you better not pout, I'm telling you why, The Slipped Disk Show is coming to town!

Ho Ho Ho! Hello, boys and girls. What did you ask Santa Claus for this year? I hope it was for another Slipped Disk Show. Don't cry or pout and I'll reach right into my bag of presents and get your first question.

Here's one that was gift-wrapped by **Jorge Barraza** of Los Angeles, California. Jorge asks:

**"How do game cartridges get programmed? I have an Atari 2600 and it doesn't have a keyboard. How are the games for it written?"**

Jorge, your question reminds me of the old saying, "You can lead a horse to water but you can't make a silk purse out of a sow's ear." I don't know why it reminds me of that, but it does.

Anyway, here's the answer. The program in a game cartridge is a circuit that is burned into a small piece of silicon (microchip). That circuit controls the game machine or computer when you turn it on. In most cases, a game cartridge can't be reprogrammed. It plays one game and that's it.

Where does the program come from? It has to be written by a game

designer. If the game is for a computer like the Commodore 64, then the designer can work right on the computer.

But if it's for a game machine like the Atari 2600, then the designer works on a special game development system. It's kind of like a 2600 with a keyboard. (You can't buy one.) Once the program is written, a computer is used to design the circuit that will go inside the cartridge.

Now here's a question that will really overload your circuits. It comes from **Bethany Sisson**, 10, of Little Compton, Rhode Island. She wants to know:

**"Do all computers have to be plugged into an electric socket?"**

Bethany, I know you're going to get a charge out of this. The answer is shocking. Here's the current information.

No, all computers do not have to be plugged in to work. Many models these days are portables that run on batteries. Some are small enough to carry in a briefcase or wear like a wristwatch. But you'll be glad to know, none of them are steam powered.

Speaking of steam, let's see if we can clear away the clouds for **Timothy Chow** of Bad Axe, Michigan, who asks:

**"Can home computers be used to predict the weather?"**

You know, Timothy, anyone can predict the weather. The hard part is being right. You can program your home computer to help with weather forecasts. Of course, you would have to supply it with the latest information on conditions like temperature and wind. Based on that information, the program could pick the kind of weather that is most likely.

Computers, satellites and all sorts of hi-tech equipment are used by professional weather people. But they still only get it right about 50% of the time. So don't expect to do better with a home computer. And remember, Timothy, into every micro a little rain must fall.

Well, 1986 is just around the corner and so I'd like to give you all some advice that will make 1986 the best year ever. Too bad I don't know any. But if you have any computer questions, send them to me at:

**The Slipped Disk Show  
3-2-1 CONTACT  
1 Lincoln Plaza  
New York, NY 10023**

See you next year!

**Contrary to popular belief, Slipped Disk does not run on batteries.**



# What Do You Know about Snow?

## A CONTACT QUIZ by Megan Stine & H. William Stine

Would you believe it if we told you it takes a little dirt to make it snow? It's true. Each tiny piece of snow—called a snow crystal—has an even tinier speck of dust or dirt in it.

Here's how it works. You know that snow is formed in clouds filled with water. To make snow, the water needs something to hang onto. That's where all the dust in the air comes into the picture.

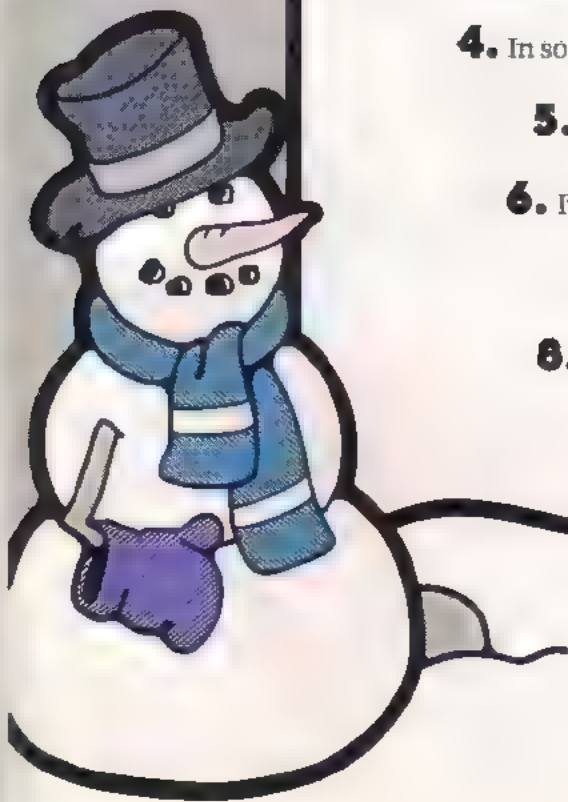
The water attaches itself to bits of dust. Then it freezes to form a crystal of snow.

It's not impossible to form snow without a speck of dust, but it's a lot harder. The temperature must be much colder—around  $-40^{\circ}\text{F}$ !

As you can see there's a lot to know about snow. Here's a quiz full of the cold facts. But when you take it, beware. Some of the questions are a little flaky!

1. Snowflakes can be as large as dinner plates.  
**True or False?**
2. If the temperature goes above freezing, it's too warm to snow.  
**True or False?**
3. When a quart of snow melts, you get a quart of water.  
**True or False?**
4. In some rare cases it is possible to see red or blue snow.  
**True or False?**
5. There are monkeys who can roll snowballs.  
**True or False?**
6. It is possible to be temporarily blinded by snow.  
**True or False?**
7. It never snows a lot in California.  
**True or False?**
8. Some automobile fumes can make it snow.  
**True or False?**

Answers on the next page.





# Snow Quiz Answers



1

**False** Snow crystals start out too small to see. Then things happen to them on their way to the ground. The single crystals attach themselves to each other, making larger and larger flakes. Snowflakes the size of your hand have been seen. But dinner plates? S'no way.



3

**False** But don't take our word for it. Fill a bucket with some snow. Then bring it inside. When the snow melts, you'll see you're left with a lot less water. When water freezes, it takes up more space than when it is in liquid form. That plus the air between the flakes makes the difference.



2

**True** It has to be 32°F (0°C) or colder for snow flakes to form. Sometimes, on the way to the ground, snow will pass through areas of warm air. When this happens, snow turns into rain. If it goes back through freezing air, it turns into freezing rain or sleet. Got it?



4

**True** Yes! There is such a thing as red snow. And it's not just found in a cherry snowcone. Snow is white as it falls to the ground. But in some places tiny plants, called algae, spread through the freshly fallen snow. There are so many of these plants, they color the snow. You can see pink or red snow in the Sierra Mountains, in the western part of the United States. You can see blue snow in Europe. In other places, algae turn the snow yellow or green.



5

**True** At least one special group of monkeys found out how much fun it is to make snowballs. These monkeys had been brought to Oregon to be studied by scientists. One monkey dropped a ball of snow and it rolled. So he pushed it some more until he had a huge snowball—big enough to sit on! After that it was monkey see, monkey do, with all the other monkeys making snowballs and sitting on them.



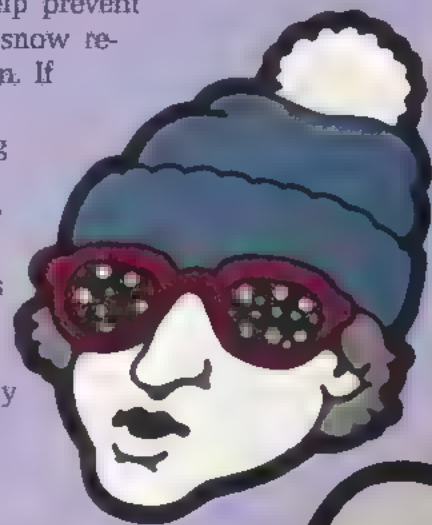
7

**False** Surprise! It does snow a lot in the northern part of California. Don't forget—California is a big state. Part of it has mountains that are covered with snow. In fact, Tahoe, California, holds a world's snowfall record. Once, in only four days, it snowed nine feet (2.7 m). So if you're going to Los Angeles, California, take your surfboard. But if you're going to Tahoe, take your skis!



6

**True** On a long ski trip, it's smart to carry suntan lotion and sunglasses. The lotion keeps you from getting sunburned. But the glasses aren't just so you'll look cool. They're to help prevent snow blindness. White snow reflects the rays of the sun. If you stare at the bright white snow for a very long time on a sunny day, you could go snow blind. Your eyes get burned by the reflection of the sun. But this "sunburn of your eyes" isn't permanent. Snow blindness usually lasts only a few days.



8

**True** Auto exhaust fumes shoot lead dust into the air. Some of the dust gets into clouds and becomes the center of snow crystals. And sometimes these crystals do become falling snow.

Other times, though, there's too much lead dust in the clouds. The dust keeps making crystals. The result? The ice crystals get packed into the clouds too tightly. This prevents rain and snow. Weather experts think that lead fumes are bad for the weather because they interfere with the natural rain and snow cycles. That's one reason why unleaded gasoline is better for the environment.



# Alien welcome mat

by Julia Allard

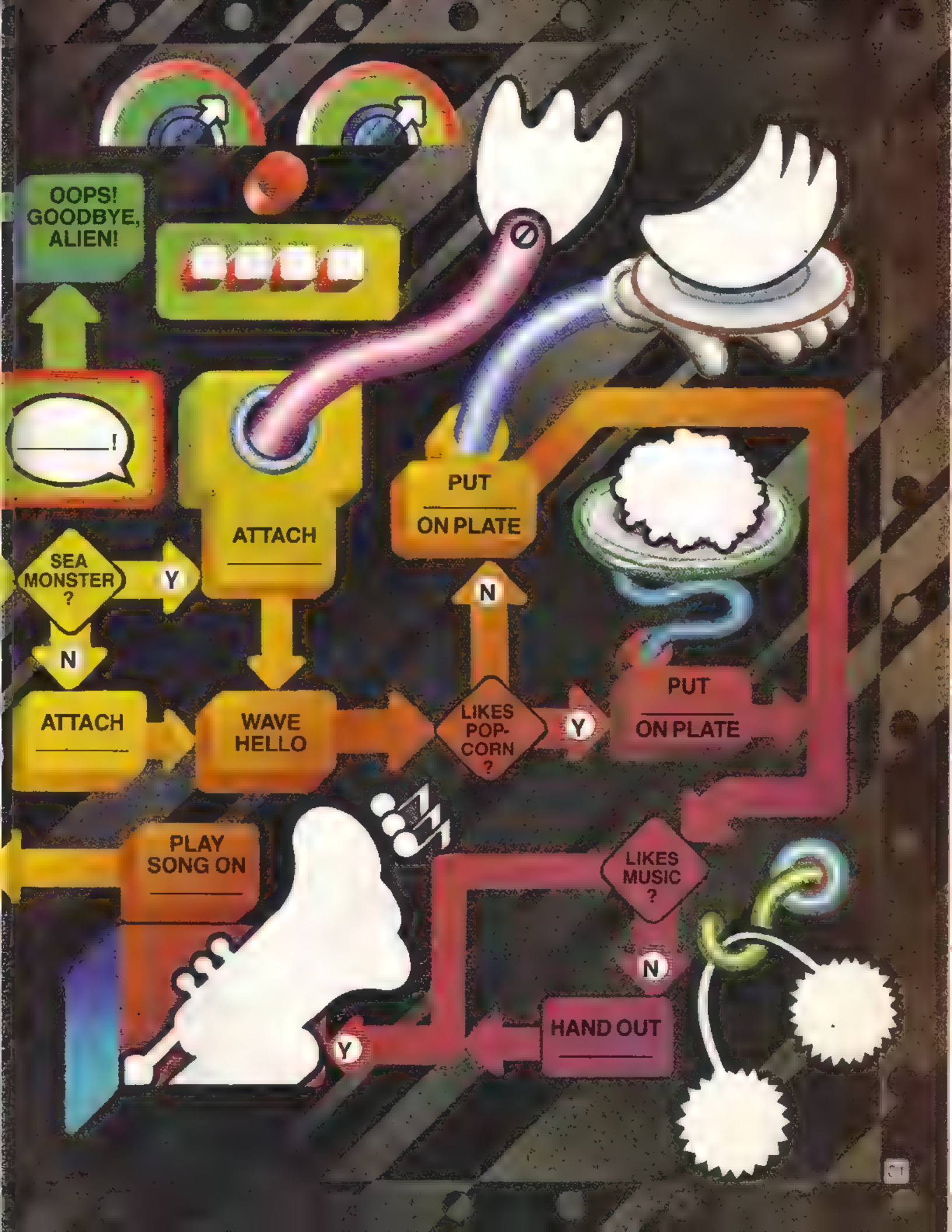
Your local spaceport has a problem. The automatic alien welcoming machine is broken—and you have to fix it. Luckily, you have all the spare parts you need in the kit below. All you have to do is figure out which part goes where.

Naturally, you should start at the box labeled **START**. Follow the arrows, and when you come to a box with a blank in it, fill in the name of the correct part. For example, if the alien creature is a friendly one, then the machine should display a friendly message.

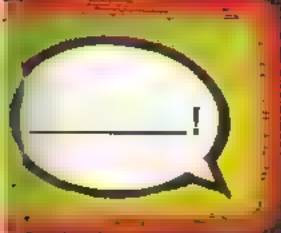
That's all there is to it. Have fun, and try to avoid intergalactic incidents. (Answer on the Did It! page.)



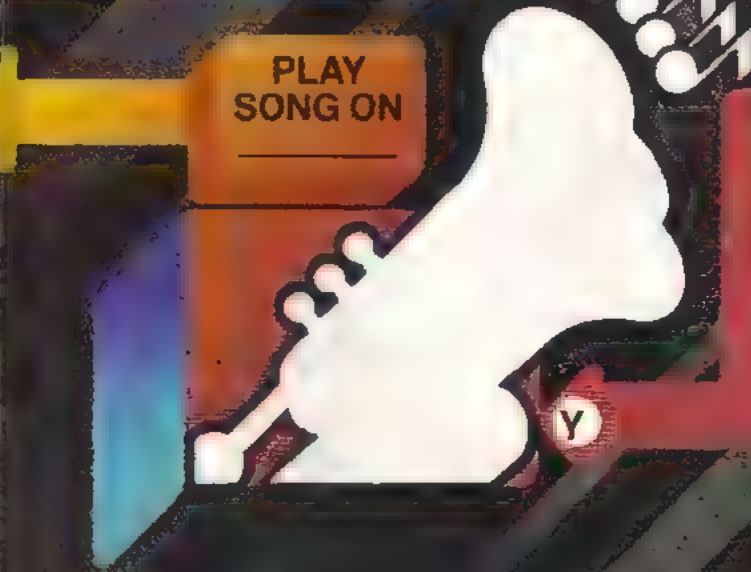
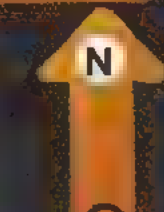




OOPS!  
GOODBYE,  
ALIEN!



ATTACH





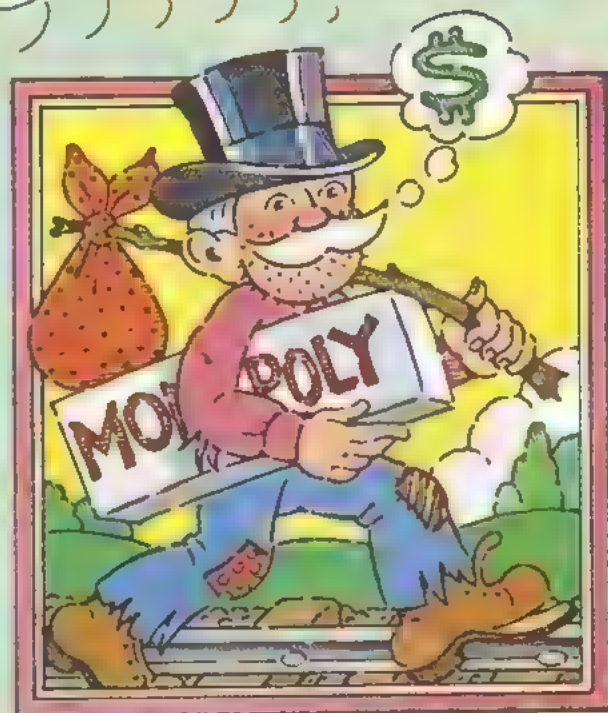
# Toying With History

How Some Toys and Games Got Their Start

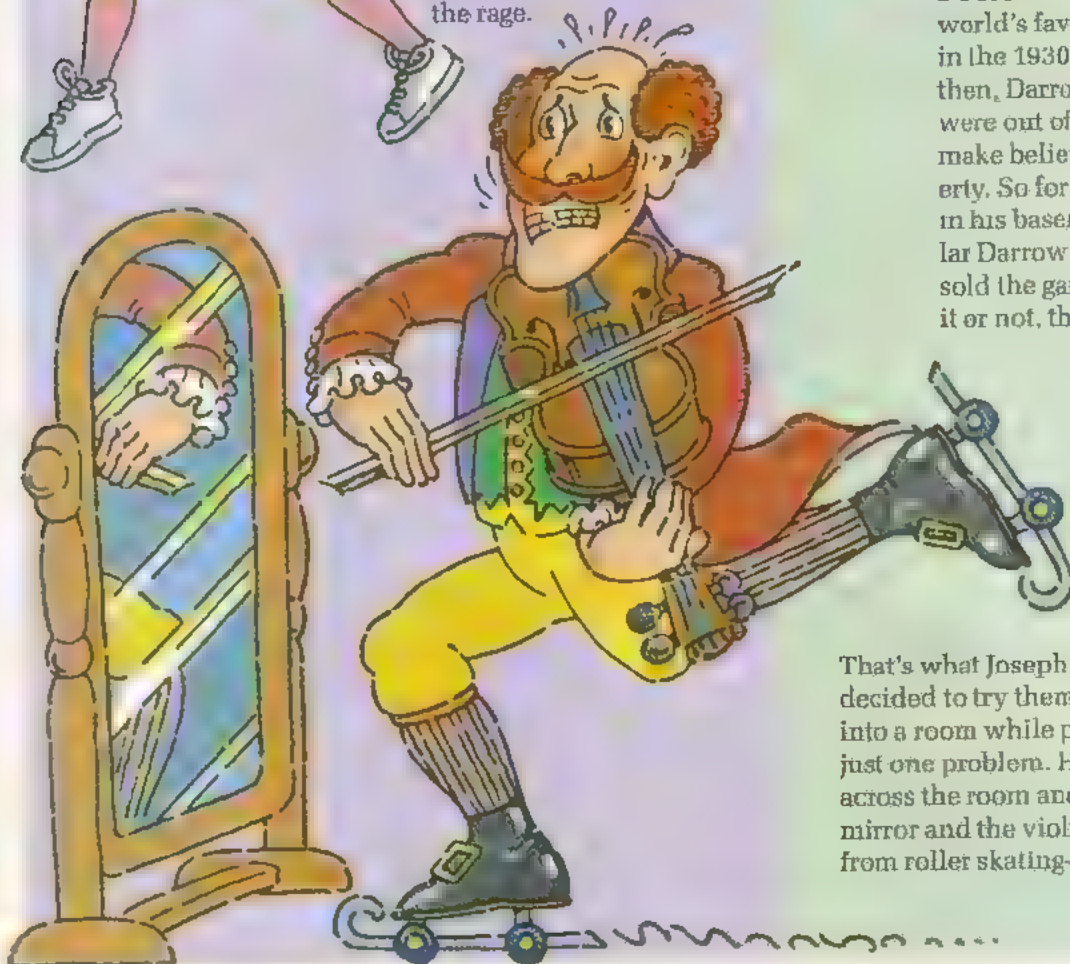
by Renée Skelton



**Pie in the Sky** Fred Morrison was taking a walk one day back in the 1950s when he saw something strange. Some college students were throwing pie pans to each other. The pans were made by the Frisbie Pie Company. It looked like fun. So Fred and his wife bought some pie pans and took them to the beach. When they started playing, everyone wanted to join in. Soon Frisbee was the rage.



**Do Not Pass Go** Monopoly is the world's favorite game. It was thought up in the 1930s by Charles Darrow. Back then, Darrow and millions of others were out of work. People wanted to make believe they had money and property. So for fun, Darrow made the game in his basement. Monopoly got so popular Darrow couldn't fill the orders. So he sold the game to Parker Brothers. Believe it or not, they refused to buy it at first.



**Brakin' Up** What do you do if you want to ice skate, but there's no ice? You put your ice skates on wheels!

That's what Joseph Merlin did back in 1760. He decided to try them out at a party. So he skated into a room while playing his violin. There was just one problem. He couldn't stop! Merlin slid across the room and crashed into a mirror. The mirror and the violin broke. And Merlin retired from roller skating—on the spot!

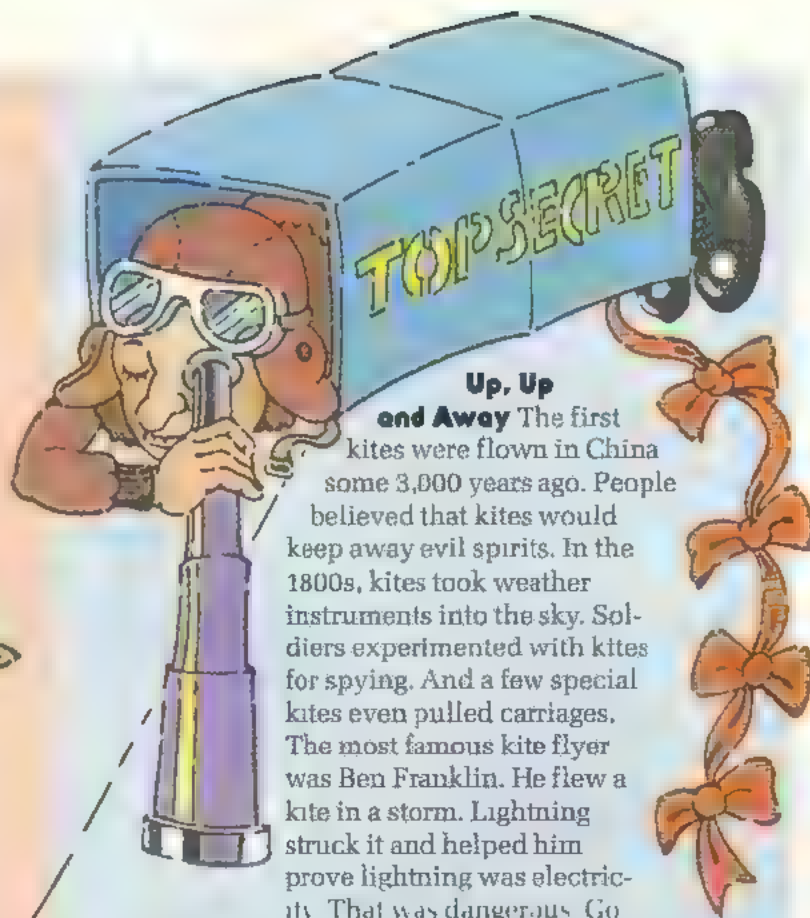


Playing marbles with cherry pits? Going for a ride in a carriage pulled by a kite? Some toys and games started out in weird ways.

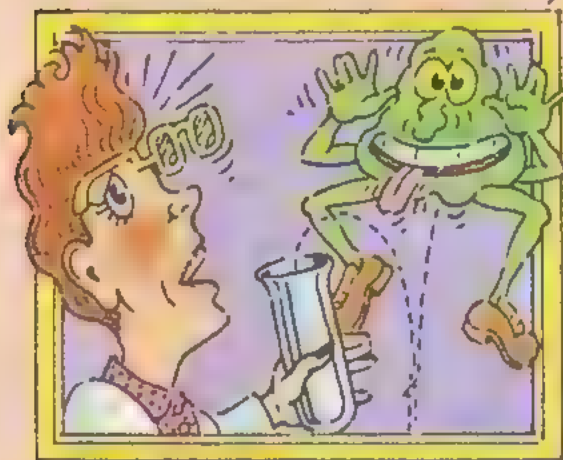
For instance...



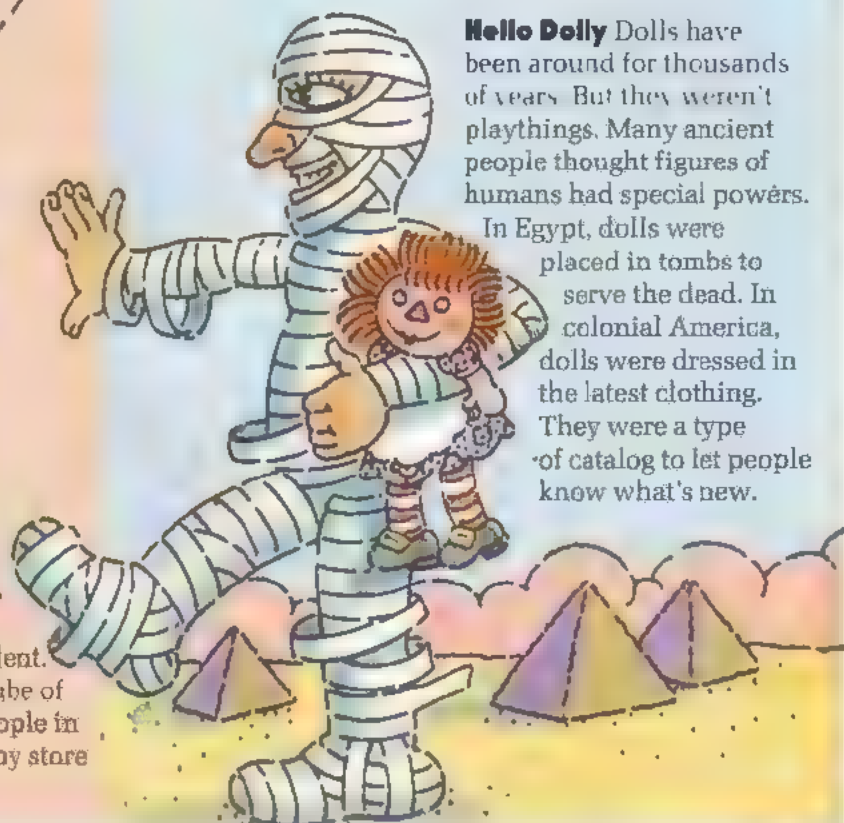
**Sure Shoorin'** People have been shooting marbles for thousands of years. Kids played marbles in ancient Egypt, Greece and Rome—with pebbles, nuts and fruit pits. George Washington, Thomas Jefferson and Abraham Lincoln played marbles when they were kids, too. But they might have played with real chips of marble. Today the game of marbles is still played, with balls of glass, agate or steel.



**Up, Up and Away** The first kites were flown in China some 3,000 years ago. People believed that kites would keep away evil spirits. In the 1800s, kites took weather instruments into the sky. Soldiers experimented with kites for spying. And a few special kites even pulled carriages. The most famous kite flyer was Ben Franklin. He flew a kite in a storm. Lightning struck it and helped him prove lightning was electricity. That was dangerous. Go fly your kite on sunny days!



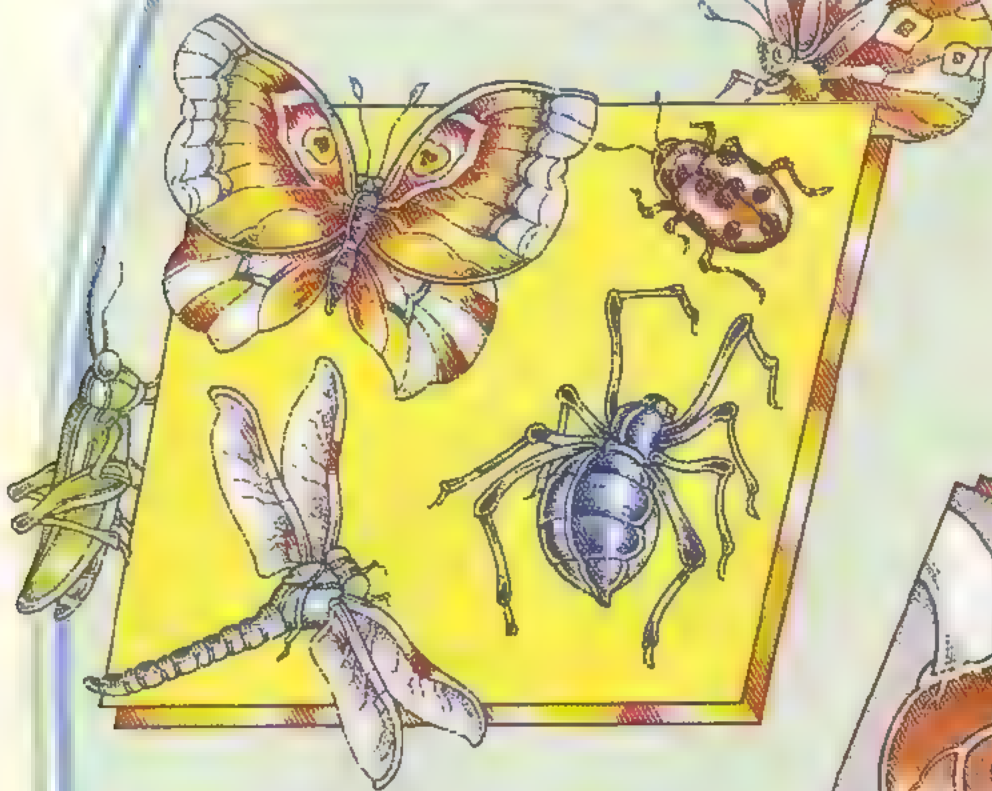
**Preppy Silly** What stretches, bounces, and picks up pictures from newspapers? Silly Putty. Nobody set out to make Silly Putty. It was an accident. An engineer threw some boric acid into a test tube of silicon—and out came this weird goo. Soon people in the lab were playing with hunks of it. When a toy store started to sell it, the craze caught on.



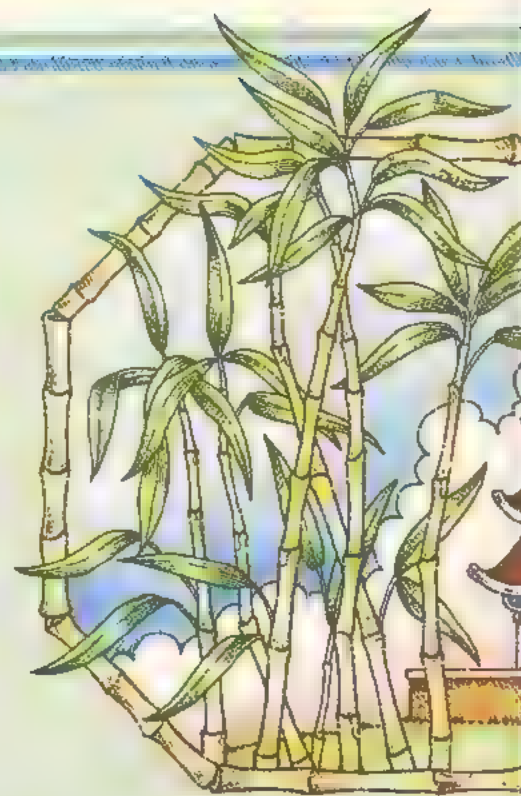
**Hello Dolly** Dolls have been around for thousands of years. But they weren't playthings. Many ancient people thought figures of humans had special powers. In Egypt, dolls were placed in tombs to serve the dead. In colonial America, dolls were dressed in the latest clothing. They were a type of catalog to let people know what's new.



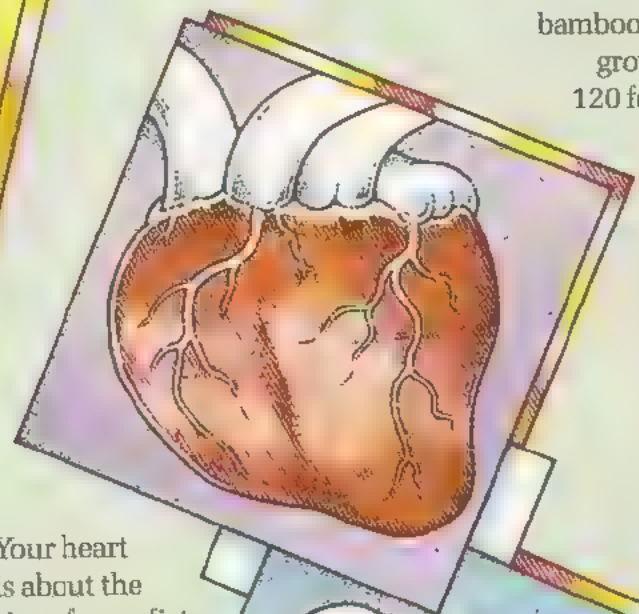
# Factoids



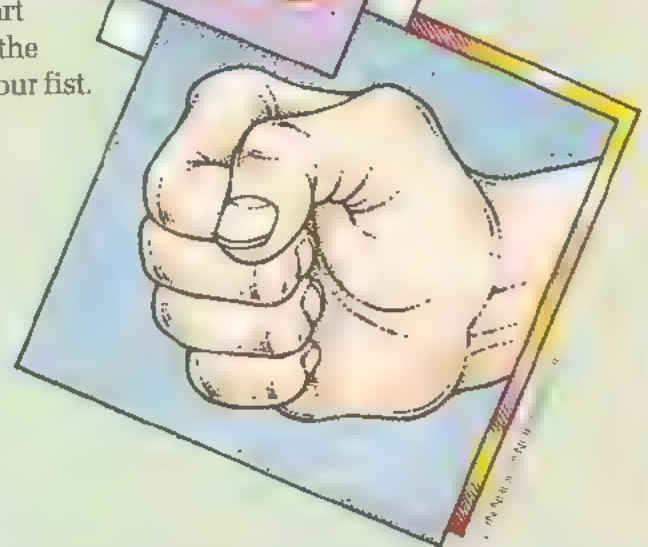
About 78% of all creatures living on earth are insects and spiders.



Some kinds of bamboo plants grow to be 120 feet tall.

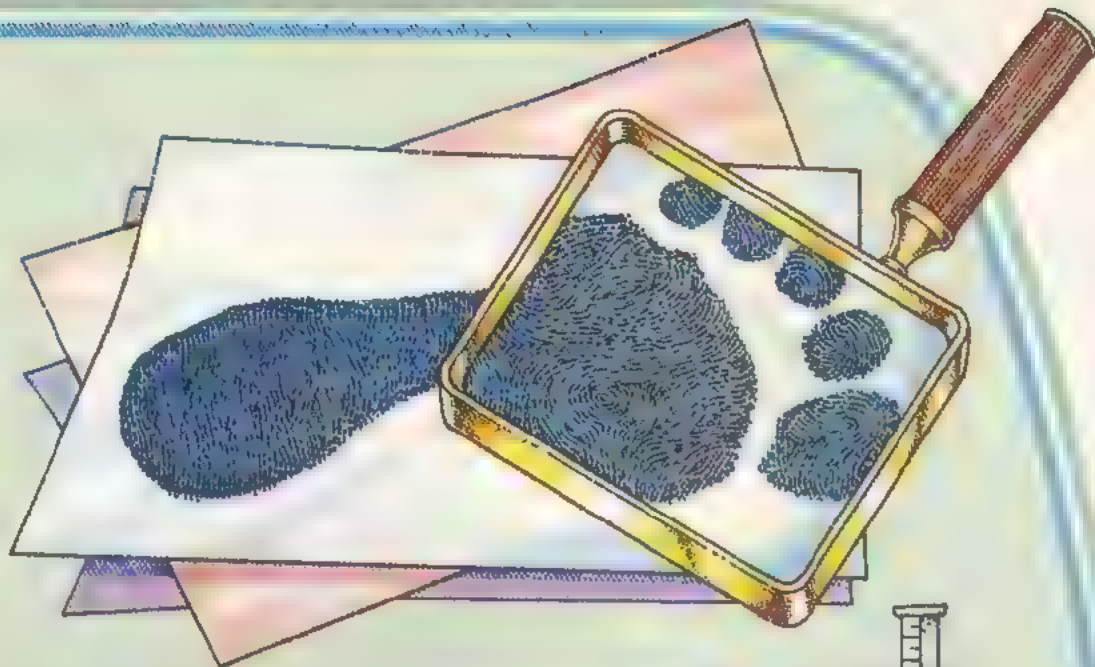


Your heart is about the size of your fist.



Cinnamon comes from the bark of a tree.





In addition to fingerprints, toe, foot and palm prints can be used to reveal a person's true identity.



The average bolt of lightning has enough energy to keep an air conditioner running for almost two weeks.



At birth, a walrus is about four feet long.



# BRAINY BUBBLES

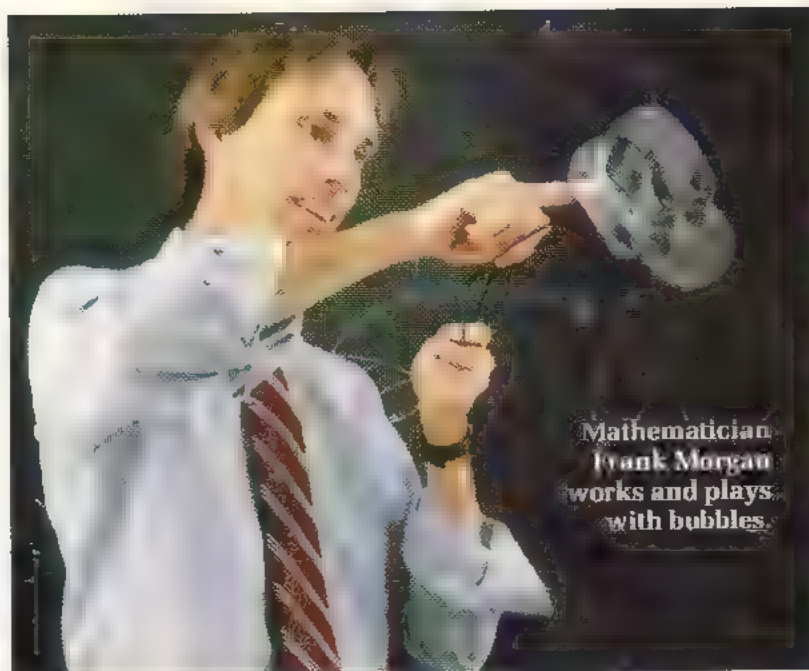
## A SOAPY SCIENCE STORY

by Richard Owen

You may think that mathematicians only work with computers and slide rules. But at the Massachusetts Institute of Technology there's a mathematician who spends a lot of his time playing with soap bubbles. That's right, soap bubbles. The mathematician is named Frank Morgan, and he uses soap bubbles to help him in his work.

"Soap bubbles may seem simple," Morgan told CONTACT, "but they show some basic rules of geometry."

"For example, why are soap bubbles round? When you blow a bubble, the soap film has to stretch to hold the air inside. Like a rubber band, it tries to contract to the smallest shape. It pulls inward with the same amount of energy in all directions. That's what makes it



Mathematician Frank Morgan works and plays with bubbles.




round or sphere-shaped."

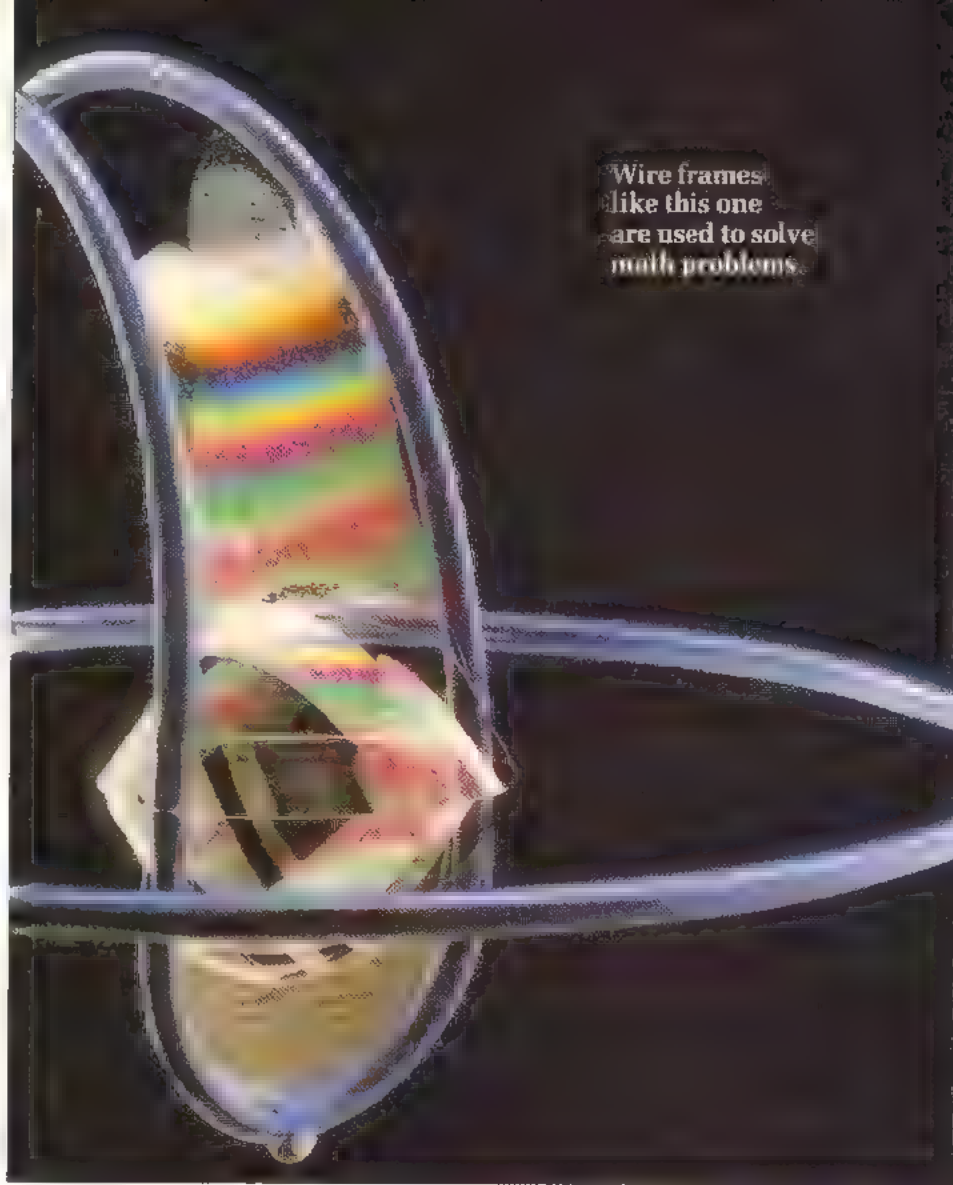
Sometimes Frank Morgan uses bubbles to help solve a specific problem. For instance, lots of problems in math and engineering can be solved using geometry.

But sometimes, Frank Morgan just watches bubbles to get inspiration. When did he start his bubble blowing? He doesn't remember, but one of our photos shows him at the age of four watching a soap bubble drift by.

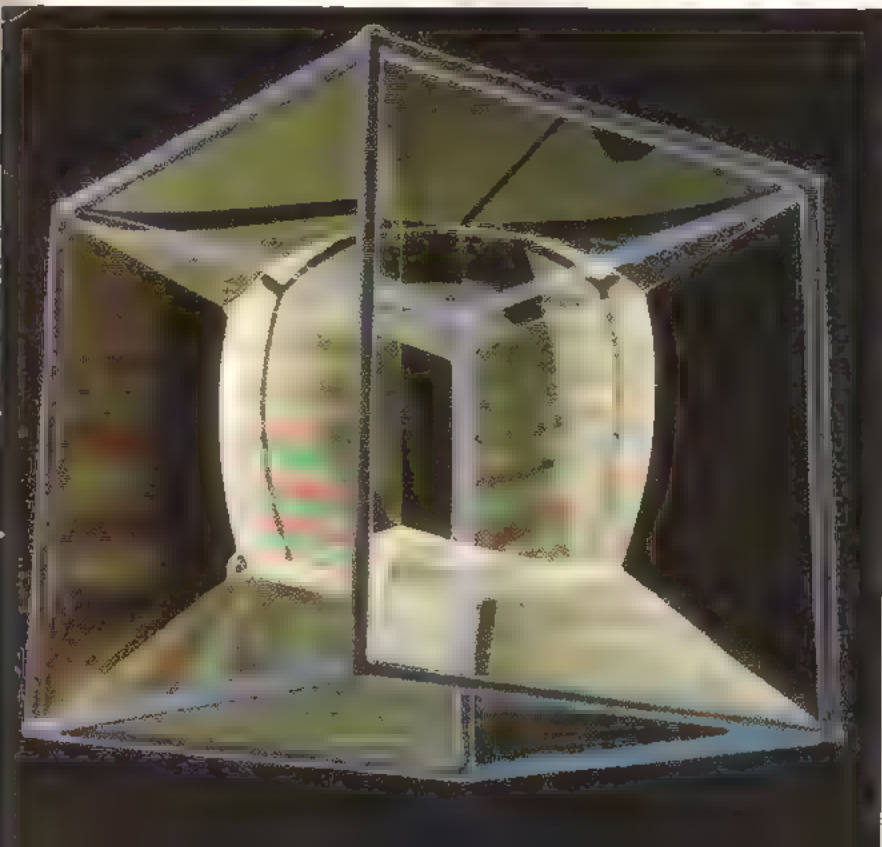
So get out your dishwashing detergent and start blowing. Who knows? You may be inspired to figure out some incredibly complicated math problem, or you might just have fun! But if anybody asks, you can tell them it's all in the name of science.

(For Frank Morgan's tips on creating your own soap bubbles, be sure to see our Extra! pages.) 

**Left:** The shape of simple soap bubbles like these can help explain important laws of science.



Wire frames like this one are used to solve math problems.



**Above:** Frank Morgan at the age of four. Is this how Einstein got started?

**Left:** This wire frame had to be dipped several times to make these shapes.



# Extra!

by Ellen R. Mednick

Ready for some more fun and games? Then try some EXTRA! excitement.

## Toy Hunt

Some of your favorite toys are hidden right here in EXTRA!. But you'll have to search for them. The names go across, up, down, backwards, forwards and diagonally. Find the words in CAPITAL letters. Circle them. When you're done, the leftover letters will spell the answer to this wintry riddle:

**Which moves faster, hot or cold?**

Check out the Did It! page for the answer.

BARBIE doll  
CABBAGE PATCH kids  
CARE BEARS  
DOMINOES  
etch-a-SKETCH  
GOBOT  
HE-MAN  
LEGO  
MY LITTLE pony

POGO stick  
radio CONTROL CAR  
RAINBOW brite  
ROAD RACE set  
SLINKY  
TRANSFORMER  
view MASTER  
VOLTRON  
YO-YO



H	H	O	S	L	I	N	K	Y	T	N	E
C	R	A	I	N	B	O	W	V	O	E	R
T	O	E	Y	B	O	D	Y	R	I	Y	L
A	A	S	M	Y	L	I	T	T	L	E	O
P	D	E	A	R	N	L	P	O	G	O	E
E	R	O	S	T	O	H	E	O	W	I	O
G	A	N	T	V	R	F	T	O	B	O	G
A	C	I	E	L	D	C	S	R	A	N	C
B	E	M	R	H	E	M	A	N	A	T	C
B	H	O	R	A	E	B	E	R	A	C	A
A	C	D	O	H	C	T	E	K	S	R	L
C	O	N	T	R	O	L	C	A	R	D	T

## Bubbles...terrific

Here is a bubble recipe from Frank Morgan, the bubble-blowing mathematician (see page 28).

Use any liquid dishwashing detergent and mix it with an equal amount of water. Your bubbles will be even better and last longer if you add glycerine. Use three parts detergent, two parts water and one part glycerine. (You can buy glycerine at most drugstores.)

Experiment with making strange soapy shapes by dipping wire frames into your bubble mixture. You'll need wire that is soft enough to bend easily, but strong enough to hold its shape. (Coat hangers are too hard to bend.) Try dipping your frames in more than once and see what happens. Keep the wire frames clean for better bubbles.





## Checking Odds

Here's a math game for two players that's sure to keep you busy on winter days.

### What You Need:

An odd number of toothpicks, coins, paper clips or any other small object. You'll need at least 15, but more will make the game even more exciting.

### How You Play:

Throw the objects in a pile on the floor or a table.

Players take turns removing the objects from the pile. You can take one, two or three items at a time. Keep going until there are no objects left.

Count up each of your pieces. The player with the odd number wins.



## Contest! Win a Talking Computer!

"If my computer could talk, it would say....." In 25 words or less, let us know! One grand-prize winner in each category will receive a Commodore 64 computer, a Welwyn/Currah Voice Messenger™ speech synthesizer and an Easy Speech™—which will let your computer talk to you.

The categories are: under 6 years old, 6-10 years old, and 11-14 years old. If you're under 6, tell your story to a grown-up who can write it down.

Besides the grand-prize winners, one first-prize winner in each category will receive a Welwyn/Currah Voice Messenger™ speech synthesizer and an Easy Speech™. Two second-prize winners in each category will receive an Intelligent Talking Terminal™ and a

Voice Messenger™ speech synthesizer. Free subscriptions to the CTW magazine of your choice will be given to the three third-prize winners in each category. Five fourth-prize winners in each category will receive a T-shirt with their magazine's name on it.

All entries must be received no later than January 31, 1986. Be sure to include your name, address and age.

If you're under 6 write Dept. SS on the envelope. If you're 6-10, write Dept. EC, and if you're 11-14, write Dept. CO. Send to: **Dept. SS, EC or CO**

**P.O. Box 599**

**Ridgefield, NJ 07657-0599**

This contest is not open to CTW or Welwyn/Currah employees or their families. Winners will be notified by mail.

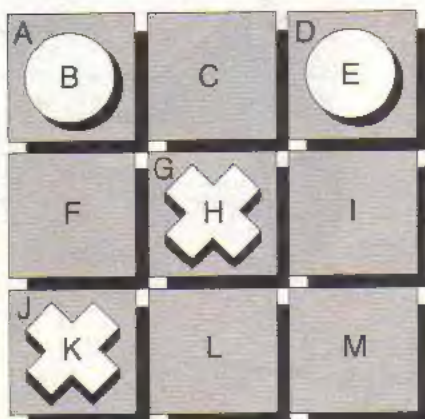
ILLUSTRATIONS BY MICHAEL DONATO



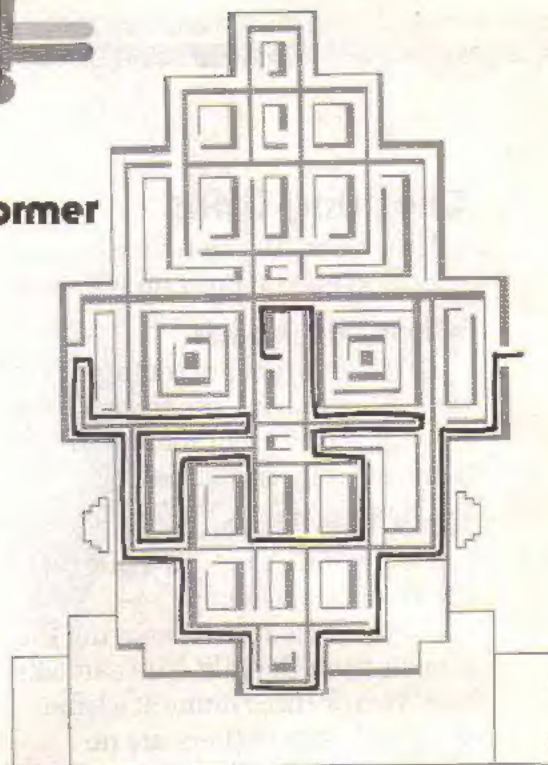
# —Did It!—

## Cover Puzzle

- A. Rainbow Brite  
B. Risk  
C. Kite  
D. Construx  
E. Monopoly  
F. He-Man  
G. Cabbage Patch Doll  
H. Pocket Simon  
I. Voltron  
J. Pac Man  
K. Gremlin Doll (Mogway)  
L. Wham-o Frisbee M. Chemistry Set



## Transformer Maze



## Odd One Out

**Green group:** Keyboard. The others are real keys or locks.

**Red group:** Joystick. The others are things you ride using your feet.

**Yellow group:** The disk. The others are types of wheels.

**Blue group:** Microchip. The others are snacks you eat.

**What do keyboard, joystick, disk and microchip have in common?** Computers, of course!

**Thank You!** Thanks to Karen and Robert Rhodes, directors of Deerkill Day Camp, and student interns Amy Roberts, Leslie Brandon, Katie Roth and Roz Weinstein for their help on the board game story.

## Next Month!

Here's a sneak peek at some of what you'll find in the next issue of 3-2-1 CONTACT:

### Right on, Lefties!

Left-handed people have special scissors, knives and even notebooks to make their lives easier. Read all about lefties in this special feature.

**Plus ENTER, the Bloodhound Gang, puzzles and more!**

## Alien Welcome Mat

Fill in the blanks this way:

NICE ALIEN? If yes, say HELLO! If no, say GET LOST!

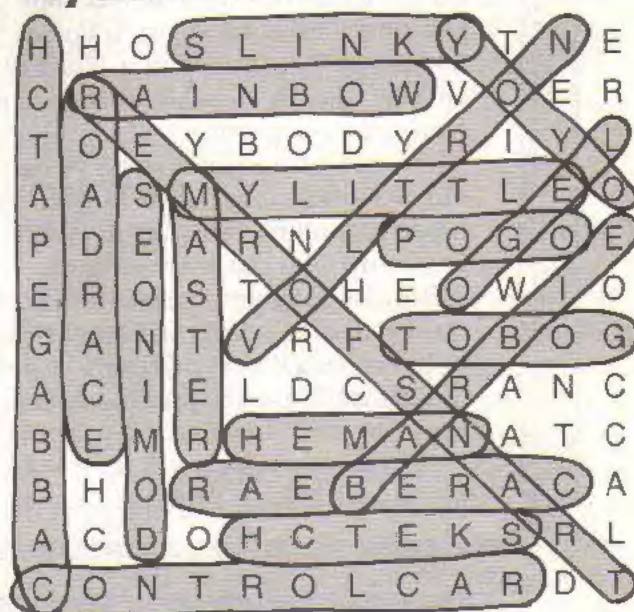
SEA MONSTER? If yes, attach FLIPPER. If no, attach PAW.

LIKES POPCORN? If yes, put POPCORN on plate. If no, put BANANAS on plate.

LIKES MUSIC? If no, hand out EARMUFFS. Then play song on TRUMPETS.

Before waving goodbye, throw CONFETTI.

## Toy Hunt



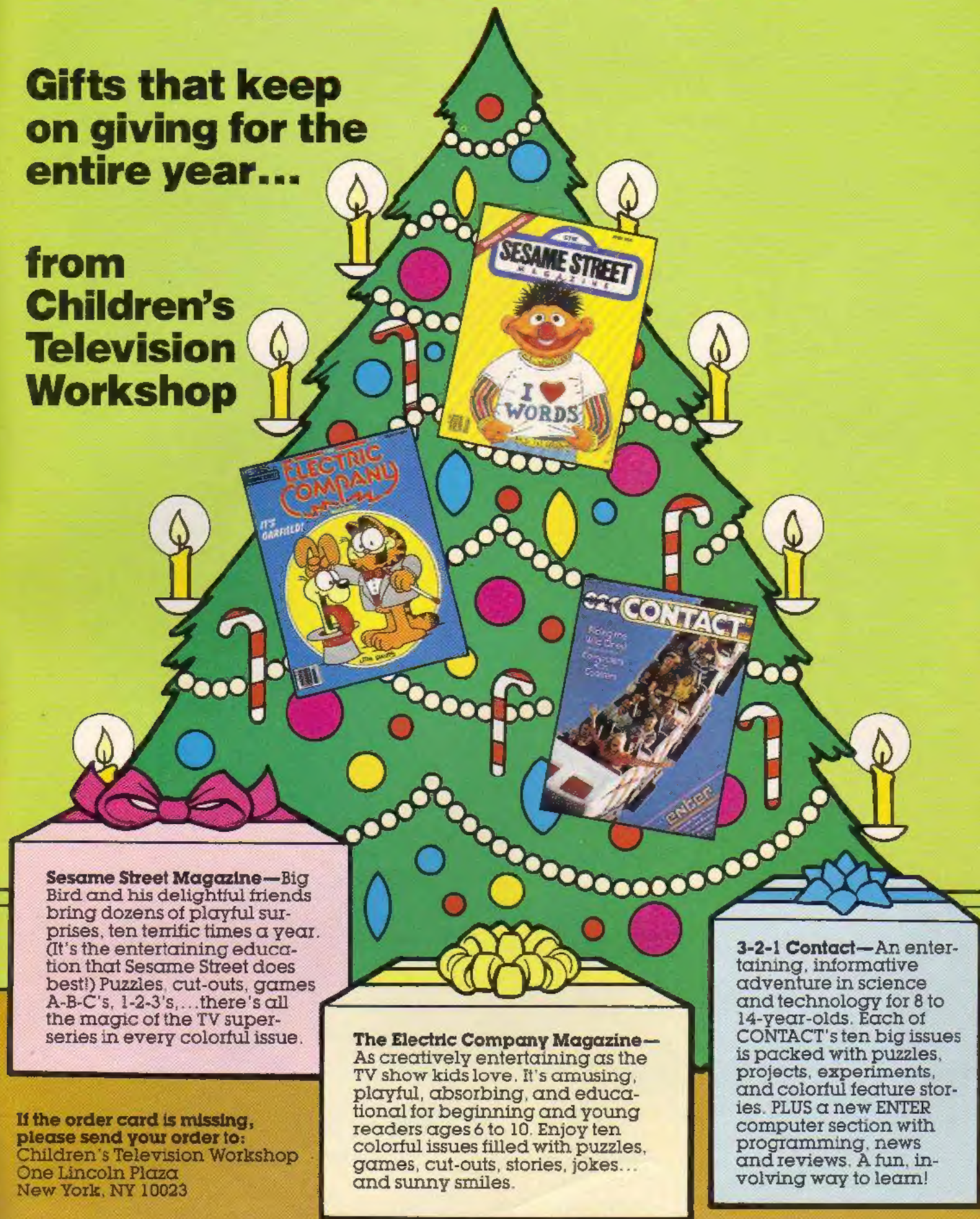
HOT. EVERYBODY IN THE WORLD CAN CATCH A COLD.



# HOLIDAY FUN

**Gifts that keep  
on giving for the  
entire year...**

**from  
Children's  
Television  
Workshop**



**Sesame Street Magazine**—Big Bird and his delightful friends bring dozens of playful surprises, ten terrific times a year. (It's the entertaining education that Sesame Street does best!) Puzzles, cut-outs, games A-B-C's, 1-2-3's, ...there's all the magic of the TV super-series in every colorful issue.

**The Electric Company Magazine**—As creatively entertaining as the TV show kids love, it's amusing, playful, absorbing, and educational for beginning and young readers ages 6 to 10. Enjoy ten colorful issues filled with puzzles, games, cut-outs, stories, jokes... and sunny smiles.

**3-2-1 Contact**—An entertaining, informative adventure in science and technology for 8 to 14-year-olds. Each of CONTACT's ten big issues is packed with puzzles, projects, experiments, and colorful feature stories. PLUS a new ENTER computer section with programming, news and reviews. A fun, involving way to learn!

**If the order card is missing,  
please send your order to:**  
Children's Television Workshop  
One Lincoln Plaza  
New York, NY 10023



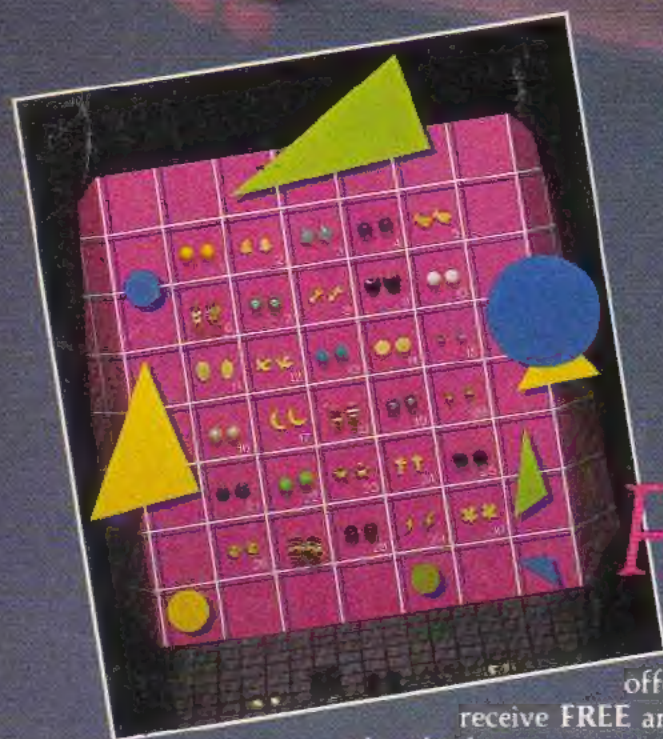
# 30 PAIR OF FASHION EARRINGS FOR ONLY \$9.00

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FOR EACH DAY OF THE MONTH

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City: _____		Age: _____	
State/Prov: _____		Zip: _____	
		Qty	Total
30 Earrings & Display (\$9.00)		X	=
POSTAGE & HANDLING (\$1.00)		X	=
* ADD \$1.00 PER KIT			
TOTAL		=	
CANADIAN ORDERS PLEASE ADD \$1.00 EXTRA PLEASE SEND CHECK OR MONEY ORDER			
A	P	D	S
	15		15A

SEND COUPON OR WRITE INFORMATION CLEARLY  
ON A SEPARATE PIECE OF PAPER